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**Department of Defense
Fiscal Year (FY) 2019 Budget Estimates**

February 2018



Navy

Justification Book Volume 1 of 1

Weapons Procurement, Navy

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The estimated cost for this report for the Department of the Navy (DON) is \$38,812.

The estimated total cost for supporting the DON budget justification material is approximately \$1,643,653 for the 2018 fiscal year. This includes \$79,753 in supplies and \$1,563,900 in labor.

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Department of Defense Appropriations Act, 2019

Weapons Procurement, Navy

For construction, procurement, production, modification, and modernization of missiles, torpedoes, other weapons, and related support equipment including spare parts, and accessories therefore; expansion of public and private plants, including the land necessary therefore, and such lands and interests therein, may be acquired, and construction prosecuted thereon prior to approval of title; and procurement and installation of equipment, appliances, and machine tools in public and private plants; reserve plant and Government and contractor-owned equipment layaway, \$3,716,527,000 to remain available for obligation until September 30, 2021.

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Department of the Navy
 FY 2019 President's Budget
 Exhibit P-1 FY 2019 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

Appropriation -----	FY 2017 (Base + OCO) -----	FY 2018 PB Request with CR Adj Base -----	FY 2018 Total PB Requests* with CR Adj Base -----	FY 2018 PB Request with CR Adj OCO -----
Weapons Procurement, Navy	3,430,885	3,237,839	3,237,839	137,600
Total Department of the Navy	3,430,885	3,237,839	3,237,839	137,600

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Department of the Navy
 FY 2019 President's Budget
 Exhibit P-1 FY 2019 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

Appropriation -----	FY 2018 Total PB Requests+ with CR Adj OCO -----	FY 2018 Emergency Requests** Emergency -----	FY 2018 Less Enacted Div B P.L.115-96*** MDDE + Ship Repairs -----	FY 2018 Remaining Req Emergency -----
Weapons Procurement, Navy	137,600			
Total Department of the Navy	137,600			

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Department of the Navy
FY 2019 President's Budget
Exhibit P-1 FY 2019 President's Budget
Total Obligational Authority
(Dollars in Thousands)

Appropriation -----	FY 2018 Total PB Requests* with CR Adj Base + OCO + Emergency** -----	FY 2018 Less Enacted DIV B P.L.115-96*** MDDE + Ship Repairs -----	FY 2018 Remaining Req with CR Adj Base + OCO + Emergency -----
Weapons Procurement, Navy	3,375,439		3,375,439
Total Department of the Navy	3,375,439		3,375,439

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Department of the Navy
FY 2019 President's Budget
Exhibit P-1 FY 2019 President's Budget
Total Obligational Authority
(Dollars in Thousands)

Appropriation -----	FY 2019 Base -----	FY 2019 OCO -----	FY 2019 Total -----
Weapons Procurement, Navy	3,702,393	14,134	3,716,527
Total Department of the Navy	3,702,393	14,134	3,716,527

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Department of the Navy
 FY 2019 President's Budget
 Exhibit P-1 FY 2019 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

Appropriation: Weapons Procurement, Navy

Budget Activity -----	FY 2017 (Base + OCO) -----	FY 2018 PB Request with CR Adj Base -----	FY 2018 Total PB Requests* with CR Adj Base -----	FY 2018 PB Request with CR Adj OCO -----
01. Ballistic Missiles	1,105,862	1,150,681	1,150,681	
02. Other Missiles	1,738,676	1,601,372	1,601,372	150,873
03. Torpedoes and Related Equipment	265,001	293,953	293,953	
04. Other Weapons	258,963	263,846	263,846	1,500
06. Spares and Repair Parts	62,383	110,255	110,255	
20. Undistributed		-182,268	-182,268	-14,773
Total Weapons Procurement, Navy	3,430,885	3,237,839	3,237,839	137,600

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Department of the Navy
FY 2019 President's Budget
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Total Obligational Authority
(Dollars in Thousands)

Appropriation: Weapons Procurement, Navy

Budget Activity -----	FY 2018 Total PB Requests+ with CR Adj OCO -----	FY 2018 Emergency Requests** Emergency -----	FY 2018 Less Enacted Div B P.L.115-96*** MDDE + Ship Repairs -----	FY 2018 Remaining Req Emergency -----
01. Ballistic Missiles				
02. Other Missiles	150,873			
03. Torpedoes and Related Equipment				
04. Other Weapons	1,500			
06. Spares and Repair Parts				
20. Undistributed	-14,773			
Total Weapons Procurement, Navy	137,600			

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Department of the Navy
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Total Obligational Authority
(Dollars in Thousands)

Appropriation: Weapons Procurement, Navy

Budget Activity -----	FY 2018 Total PB Requests* with CR Adj Base + OCO + Emergency** -----	FY 2018 Less Enacted DIV B P.L.115-96*** MDDE + Ship Repairs -----	FY 2018 Remaining Req with CR Adj Base + OCO + Emergency -----
01. Ballistic Missiles	1,150,681		1,150,681
02. Other Missiles	1,752,245		1,752,245
03. Torpedoes and Related Equipment	293,953		293,953
04. Other Weapons	265,346		265,346
06. Spares and Repair Parts	110,255		110,255
20. Undistributed	-197,041		-197,041
Total Weapons Procurement, Navy	3,375,439		3,375,439

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Department of the Navy
FY 2019 President's Budget
Exhibit P-1 FY 2019 President's Budget
Total Obligational Authority
(Dollars in Thousands)

Appropriation: Weapons Procurement, Navy

Budget Activity -----	FY 2019 Base -----	FY 2019 OCO -----	FY 2019 Total -----
01. Ballistic Missiles	1,085,748		1,085,748
02. Other Missiles	1,899,561	9,594	1,909,155
03. Torpedoes and Related Equipment	353,971		353,971
04. Other Weapons	227,425	4,540	231,965
06. Spares and Repair Parts	135,688		135,688
20. Undistributed			
Total Weapons Procurement, Navy	3,702,393	14,134	3,716,527

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Department of the Navy
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Total Obligational Authority
(Dollars in Thousands)

Appropriation: 1507N Weapons Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2017 (Base + OCO) Quantity Cost	FY 2018 PB Request with CR Adj Base Quantity Cost	FY 2018 Total PB Requests* with CR Adj Base Quantity Cost	FY 2018 PB Request with CR Adj OCO Quantity Cost	S e c -
Budget Activity 01: Ballistic Missiles							
Modification of Missiles							
1	Trident II Mods		1,099,086	1,143,595	1,143,595		U
Support Equipment & Facilities							
2	Missile Industrial Facilities	A	6,776	7,086	7,086		U
Total Ballistic Missiles			1,105,862	1,150,681	1,150,681		
Budget Activity 02: Other Missiles							
Strategic Missiles							
3	Tomahawk	A	196 297,505	34 134,375	34 134,375	66 100,086	U
Tactical Missiles							
4	AMRAAM	A	163 197,229	120 197,109	120 197,109		U
5	Sidewinder	A	147 70,912	185 79,692	185 79,692		U
6	JSOW	B	2,232	5,487	5,487		U
7	Standard Missile	A	125 491,212	117 510,875	117 510,875	8 35,208	U
8	Standard Missile Advance Procurement (CY) C (FY 2019 for FY 2020) (M) C (FY 2019 for FY 2021) (M) C (FY 2019 for FY 2022) (M)						U
9	Small Diameter Bomb II			90 20,968	90 20,968		U

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Department of the Navy
FY 2019 President's Budget
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Total Obligational Authority
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Appropriation: 1507N Weapons Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2018 Total PB Requests+ with CR Adj OCO		FY 2018 Emergency Requests** Emergency		FY 2018 Less Enacted Div B P.L.115-96*** MDDE + Ship Repairs		FY 2018 Remaining Req Emergency		S e c -
			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	
Budget Activity 01: Ballistic Missiles											
Modification of Missiles											
1	Trident II Mods										U
Support Equipment & Facilities											
2	Missile Industrial Facilities	A									U
Total Ballistic Missiles											
Budget Activity 02: Other Missiles											
Strategic Missiles											
3	Tomahawk	A	66	100,086							U
Tactical Missiles											
4	AMRAAM	A									U
5	Sidewinder	A									U
6	JSOW	B									U
7	Standard Missile	A	8	35,208							U
8	Standard Missile Advance Procurement (CY)										U
	C (FY 2019 for FY 2020) (M)										
	C (FY 2019 for FY 2021) (M)										
	C (FY 2019 for FY 2022) (M)										
9	Small Diameter Bomb II										U

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Appropriation: 1507N Weapons Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2018 Total PB Requests* with CR Adj Base + OCO + Emergency** Quantity	Cost	FY 2018 Less Enacted DIV B P.L.115-96*** MDDE + Ship Repairs Quantity	Cost	FY 2018 Remaining Req with CR Adj Base + OCO + Emergency Quantity	Cost	S e c -
Budget Activity 01: Ballistic Missiles									
Modification of Missiles									
1	Trident II Mods			1,143,595			1,143,595		U
Support Equipment & Facilities									
2	Missile Industrial Facilities	A		7,086			7,086		U
Total Ballistic Missiles				1,150,681			1,150,681		
Budget Activity 02: Other Missiles									
Strategic Missiles									
3	Tomahawk	A	100	234,461			100	234,461	U
Tactical Missiles									
4	AMRAAM	A	120	197,109			120	197,109	U
5	Sidewinder	A	185	79,692			185	79,692	U
6	JSOW	B		5,487				5,487	U
7	Standard Missile	A	125	546,083			125	546,083	U
8	Standard Missile Advance Procurement (CY)								U
	C (FY 2019 for FY 2020) (M)								
	C (FY 2019 for FY 2021) (M)								
	C (FY 2019 for FY 2022) (M)								
9	Small Diameter Bomb II		90	20,968			90	20,968	U

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Total Obligational Authority
(Dollars in Thousands)

Appropriation: 1507N Weapons Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2019 Base Quantity	Cost	FY 2019 OCO Quantity	Cost	FY 2019 Total Quantity	Cost	S e c
----	-----	-----	-----	----	-----	----	-----	----	-
Budget Activity 01: Ballistic Missiles									

Modification of Missiles									
1	Trident II Mods			1,078,750			1,078,750		U
Support Equipment & Facilities									
2	Missile Industrial Facilities	A		6,998			6,998		U
			-----		-----		-----		
Total Ballistic Missiles				1,085,748			1,085,748		
Budget Activity 02: Other Missiles									

Strategic Missiles									
3	Tomahawk	A		98,570			98,570		U
Tactical Missiles									
4	AMRAAM	A	140	211,058	1	1,183	141	212,241	U
5	Sidewinder	A	191	77,927	1	381	192	78,308	U
6	JSOW	B		1,330			1,330		U
7	Standard Missile	A	125	490,210			125	490,210	U
8	Standard Missile								
	Advance Procurement (CY)			125,683			125,683		U
	C (FY 2019 for FY 2020) (M)			(83,789)			(83,789)		
	C (FY 2019 for FY 2021) (M)			(25,137)			(25,137)		
	C (FY 2019 for FY 2022) (M)			(16,757)			(16,757)		
9	Small Diameter Bomb II		750	91,272			750	91,272	U

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Appropriation: 1507N Weapons Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2017 (Base + OCO) Quantity	Cost	FY 2018 PB Request with CR Adj Base Quantity	Cost	FY 2018 Total PB Requests* with CR Adj Base Quantity	Cost	FY 2018 PB Request with CR Adj OCO Quantity	Cost	S e c
----	-----	-----	-----	----	-----	----	-----	----	-----	----	-
10	Ram	A	120	95,557	60	58,587	60	58,587			U
11	Joint Air Ground Missile (JAGM)	A	96	21,922		3,789		3,789			U
12	Hellfire	A	100	8,600					110	8,771	U
13	Laser Maverick	A		20,000						5,040	U
14	Stand off Precision Guided Munitions (SOPGM)	A	24	3,316	19	3,122	19	3,122			U
15	Aerial Targets	A		138,784		124,757		124,757			U
16	Other Missile Support	A		3,248		3,420		3,420			U
17	LRASM	A	17	54,343	25	74,733	25	74,733			U
18	LCS OTH Missile	A									U
Modification of Missiles											
19	ESSM	A	73	(105,279)	30	(74,524)	30	(74,524)	1	(1,768)	U
	Less: Advance Procurement (PY)			(-54,462)							U
				-----		-----		-----		-----	
				50,817		74,524		74,524		1,768	
20	Harpoon Mods	A				17,300		17,300			U
21	Harm Mods	A		180,052		183,368		183,368			U
22	Standard Missiles Mods	A		8,164		11,729		11,729			U
Support Equipment & Facilities											
23	Weapons Industrial Facilities	A		1,964		4,021		4,021			U
24	Fleet Satellite Comm Follow-On	A		33,723		46,357		46,357			U

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Appropriation: 1507N Weapons Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2018 Total PB Requests+ with CR Adj OCO Quantity	Cost	FY 2018 Emergency Requests** Emergency Quantity	Cost	FY 2018 Less Enacted Div B P.L.115-96*** MDDE + Ship Repairs Quantity	Cost	FY 2018 Remaining Req Emergency Quantity	Cost	S e c
----	-----	-----	-----	----	-----	----	-----	----	-----	----	-
10	Ram	A									U
11	Joint Air Ground Missile (JAGM)	A									U
12	Hellfire	A	110	8,771							U
13	Laser Maverick	A		5,040							U
14	Stand off Precision Guided Munitions (SOPGM)	A									U
15	Aerial Targets	A									U
16	Other Missile Support	A									U
17	LRASM	A									U
18	LCS OTH Missile	A									U
Modification of Missiles											
19	ESSM	A	1	(1,768)							U
	Less: Advance Procurement (PY)										U
				1,768							
20	Harpoon Mods	A									U
21	Harm Mods	A									U
22	Standard Missiles Mods	A									U
Support Equipment & Facilities											
23	Weapons Industrial Facilities	A									U
24	Fleet Satellite Comm Follow-On	A									U

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Total Obligational Authority
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Appropriation: 1507N Weapons Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2018 Total PB Requests* with CR Adj Base + OCO + Emergency** Quantity	Cost	FY 2018 Less Enacted DIV B P.L.115-96*** MDDE + Ship Repairs Quantity	Cost	FY 2018 Remaining Req with CR Adj Base + OCO + Emergency Quantity	Cost	S e c
----	-----	-----	-----	----	-----	----	-----	----	-
10	Ram	A	60	58,587			60	58,587	U
11	Joint Air Ground Missile (JAGM)	A		3,789				3,789	U
12	Hellfire	A	110	8,771			110	8,771	U
13	Laser Maverick	A		5,040				5,040	U
14	Stand off Precision Guided Munitions (SOPGM)	A	19	3,122			19	3,122	U
15	Aerial Targets	A		124,757				124,757	U
16	Other Missile Support	A		3,420				3,420	U
17	LRASM	A	25	74,733			25	74,733	U
18	LCS OTH Missile	A							U
Modification of Missiles									
19	ESSM	A	31	(76,292)			31	(76,292)	U
	Less: Advance Procurement (PY)								U
				-----		-----		-----	
				76,292				76,292	
20	Harpoon Mods	A		17,300				17,300	U
21	Harm Mods	A		183,368				183,368	U
22	Standard Missiles Mods	A		11,729				11,729	U
Support Equipment & Facilities									
23	Weapons Industrial Facilities	A		4,021				4,021	U
24	Fleet Satellite Comm Follow-On	A		46,357				46,357	U

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Department of the Navy
FY 2019 President's Budget
Exhibit P-1 FY 2019 President's Budget
Total Obligational Authority
(Dollars in Thousands)

Appropriation: 1507N Weapons Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2019 Base Quantity	Cost	FY 2019 OCO Quantity	Cost	FY 2019 Total Quantity	Cost	S e c
----	-----	-----	-----	----	-----	----	-----	----	-
10	Ram	A	120	96,221			120	96,221	U
11	Joint Air Ground Missile (JAGM)	A	75	24,109			75	24,109	U
12	Hellfire	A			23	1,530	23	1,530	U
13	Laser Maverick	A							U
14	Stand off Precision Guided Munitions (SOPGM)	A	31	11,378			31	11,378	U
15	Aerial Targets	A		137,137		6,500		143,637	U
16	Other Missile Support	A		3,318				3,318	U
17	LRASM	A	25	81,190			25	81,190	U
18	LCS OTH Missile	A	8	18,156			8	18,156	U
Modification of Missiles									
19	ESSM	A	45	(98,384)			45	(98,384)	U
	Less: Advance Procurement (PY)								U
				-----		-----		-----	
				98,384				98,384	
20	Harpoon Mods	A		14,840				14,840	U
21	Harm Mods	A		187,985				187,985	U
22	Standard Missiles Mods	A							U
Support Equipment & Facilities									
23	Weapons Industrial Facilities	A		2,006				2,006	U
24	Fleet Satellite Comm Follow-On	A		66,779				66,779	U

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Department of the Navy
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Total Obligational Authority
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Appropriation: 1507N Weapons Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2017 (Base + OCO) Quantity Cost	FY 2018 PB Request with CR Adj Base Quantity Cost	FY 2018 Total PB Requests* with CR Adj Base Quantity Cost	FY 2018 PB Request with CR Adj OCO Quantity Cost	S e c
----	-----	-----	-----	-----	-----	-----	-
	Ordnance Support Equipment						
25	Ordnance Support Equipment	A	59,096	47,159	47,159		U
			-----	-----	-----	-----	
	Total Other Missiles		1,738,676	1,601,372	1,601,372	150,873	
	Budget Activity 03: Torpedoes and Related Equipment						

	Torpedoes and Related Equip						
26	SSTD	A	5,910	5,240	5,240		U
27	MK-48 Torpedo	A	11 43,037	17 44,771	17 44,771		U
28	ASW Targets	A	9,106	12,399	12,399		U
	Mod of Torpedoes and Related Equip						
29	MK-54 Torpedo Mods	A	97,092	104,044	104,044		U
30	MK-48 Torpedo ADCAP Mods	A	46,139	38,954	38,954		U
31	Quickstrike Mine	B	1,236	10,337	10,337		U
	Support Equipment						
32	Torpedo Support Equipment	A	54,971	70,383	70,383		U
33	ASW Range Support	A	3,706	3,864	3,864		U
	Destination Transportation						
34	First Destination Transportation	A	3,804	3,961	3,961		U
			-----	-----	-----	-----	
	Total Torpedoes and Related Equipment		265,001	293,953	293,953		

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Total Obligational Authority
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Appropriation: 1507N Weapons Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2018 Total PB Requests+ with CR Adj OCO		FY 2018 Emergency Requests** Emergency		FY 2018 Less Enacted Div B P.L.115-96*** MDDE + Ship Repairs		FY 2018 Remaining Req Emergency		S e c
			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	
	Ordnance Support Equipment										
25	Ordnance Support Equipment	A									U
	Total Other Missiles			150,873							
	Budget Activity 03: Torpedoes and Related Equipment										
	Torpedoes and Related Equip										
26	SSTD	A									U
27	MK-48 Torpedo	A									U
28	ASW Targets	A									U
	Mod of Torpedoes and Related Equip										
29	MK-54 Torpedo Mods	A									U
30	MK-48 Torpedo ADCAP Mods	A									U
31	Quickstrike Mine	B									U
	Support Equipment										
32	Torpedo Support Equipment	A									U
33	ASW Range Support	A									U
	Destination Transportation										
34	First Destination Transportation	A									U
	Total Torpedoes and Related Equipment										

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Total Obligational Authority
(Dollars in Thousands)

Appropriation: 1507N Weapons Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2018 Total PB Requests* with CR Adj Base + OCO + Emergency** Quantity Cost	FY 2018 Less Enacted DIV B P.L.115-96*** MDDE + Ship Repairs Quantity Cost	FY 2018 Remaining Req with CR Adj Base + OCO + Emergency Quantity Cost	S e c -
----	-----	-----	-----	-----	-----	-----
Ordnance Support Equipment						
25	Ordnance Support Equipment	A	47,159		47,159	U
			-----	-----	-----	
Total Other Missiles			1,752,245		1,752,245	
Budget Activity 03: Torpedoes and Related Equipment						

Torpedoes and Related Equip						
26	SSTD	A	5,240		5,240	U
27	MK-48 Torpedo	A	17 44,771		17 44,771	U
28	ASW Targets	A	12,399		12,399	U
Mod of Torpedoes and Related Equip						
29	MK-54 Torpedo Mods	A	104,044		104,044	U
30	MK-48 Torpedo ADCAP Mods	A	38,954		38,954	U
31	Quickstrike Mine	B	10,337		10,337	U
Support Equipment						
32	Torpedo Support Equipment	A	70,383		70,383	U
33	ASW Range Support	A	3,864		3,864	U
Destination Transportation						
34	First Destination Transportation	A	3,961		3,961	U
			-----	-----	-----	
Total Torpedoes and Related Equipment			293,953		293,953	

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Total Obligational Authority
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Appropriation: 1507N Weapons Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2019 Base Quantity	Cost	FY 2019 OCO Quantity	Cost	FY 2019 Total Quantity	Cost	S e c
----	-----	-----	-----	----	-----	----	-----	----	-
	Ordnance Support Equipment								
25	Ordnance Support Equipment	A	62,008				62,008		U
			-----		-----		-----		
	Total Other Missiles		1,899,561		9,594		1,909,155		
	Budget Activity 03: Torpedoes and Related Equipment								

	Torpedoes and Related Equip								
26	SSTD	A	6,353				6,353		U
27	MK-48 Torpedo	A	45	92,616			45	92,616	U
28	ASW Targets	A	12,324				12,324		U
	Mod of Torpedoes and Related Equip								
29	MK-54 Torpedo Mods	A	105,946				105,946		U
30	MK-48 Torpedo ADCAP Mods	A	40,005				40,005		U
31	Quickstrike Mine	B	9,758				9,758		U
	Support Equipment								
32	Torpedo Support Equipment	A	79,371				79,371		U
33	ASW Range Support	A	3,872				3,872		U
	Destination Transportation								
34	First Destination Transportation	A	3,726				3,726		U
			-----		-----		-----		
	Total Torpedoes and Related Equipment		353,971				353,971		

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Total Obligational Authority
(Dollars in Thousands)

Appropriation: 1507N Weapons Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2017 (Base + OCO) Quantity Cost	FY 2018 PB Request with CR Adj Base Quantity Cost	FY 2018 Total PB Requests* with CR Adj Base Quantity Cost	FY 2018 PB Request with CR Adj OCO Quantity Cost	S e c -
Budget Activity 04: Other Weapons							

Guns and Gun Mounts							
35	Small Arms and Weapons	A	18,002	11,332	11,332	1,500	U
Modification of Guns and Gun Mounts							
36	CIWS Mods	A	50,900	72,698	72,698		U
37	Coast Guard Weapons	A	25,295	38,931	38,931		U
38	Gun Mount Mods	A	77,003	76,025	76,025		U
39	LCS Module Weapons	B	24 2,776	110 13,110	110 13,110		U
40	Cruiser Modernization Weapons	A	71,200	34,825	34,825		U
41	Airborne Mine Neutralization Systems	A	13,753	16,925	16,925		U
Other							
42	Cancelled Account Adjustments	A	34				U
Total Other Weapons			258,963	263,846	263,846	1,500	
Budget Activity 06: Spares and Repair Parts							

Spares and Repair Parts							
43	Spares and Repair Parts	A	62,383	110,255	110,255		U
Total Spares and Repair Parts			62,383	110,255	110,255		

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(Dollars in Thousands)

Appropriation: 1507N Weapons Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2018 Total PB Requests+ with CR Adj OCO Quantity	Cost	FY 2018 Emergency Requests** Emergency Quantity	Cost	FY 2018 Less Enacted Div B P.L.115-96*** MDDE + Ship Repairs Quantity	Cost	FY 2018 Remaining Req Emergency Quantity	Cost	S e c -
Budget Activity 04: Other Weapons											

Guns and Gun Mounts											
35	Small Arms and Weapons	A		1,500							U
Modification of Guns and Gun Mounts											
36	CIWS Mods	A									U
37	Coast Guard Weapons	A									U
38	Gun Mount Mods	A									U
39	LCS Module Weapons	B									U
40	Cruiser Modernization Weapons	A									U
41	Airborne Mine Neutralization Systems	A									U
Other											
42	Cancelled Account Adjustments	A									U
Total Other Weapons				1,500							
Budget Activity 06: Spares and Repair Parts											

Spares and Repair Parts											
43	Spares and Repair Parts	A									U
Total Spares and Repair Parts											

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Appropriation: 1507N Weapons Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2018 Total PB Requests* with CR Adj Base + OCO + Emergency** Quantity Cost	FY 2018 Less Enacted DIV B P.L.115-96*** MDDE + Ship Repairs Quantity Cost	FY 2018 Remaining Req with CR Adj Base + OCO + Emergency Quantity Cost	S e c -
----	-----	-----	-----	-----	-----	-
Budget Activity 04: Other Weapons						

Guns and Gun Mounts						
35	Small Arms and Weapons	A	12,832		12,832	U
Modification of Guns and Gun Mounts						
36	CIWS Mods	A	72,698		72,698	U
37	Coast Guard Weapons	A	38,931		38,931	U
38	Gun Mount Mods	A	76,025		76,025	U
39	LCS Module Weapons	B	110 13,110		110 13,110	U
40	Cruiser Modernization Weapons	A	34,825		34,825	U
41	Airborne Mine Neutralization Systems	A	16,925		16,925	U
Other						
42	Cancelled Account Adjustments	A				U
Total Other Weapons			265,346		265,346	
Budget Activity 06: Spares and Repair Parts						

Spares and Repair Parts						
43	Spares and Repair Parts	A	110,255		110,255	U
Total Spares and Repair Parts			110,255		110,255	

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Total Obligational Authority
(Dollars in Thousands)

Appropriation: 1507N Weapons Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2019 Base Quantity	Cost	FY 2019 OCO Quantity	Cost	FY 2019 Total Quantity	Cost	S e c
----	-----	-----	-----	----	-----	----	-----	----	-
Budget Activity 04: Other Weapons									

Guns and Gun Mounts									
35	Small Arms and Weapons	A		15,067		1,540		16,607	U
Modification of Guns and Gun Mounts									
36	CIWS Mods	A		63,318				63,318	U
37	Coast Guard Weapons	A		40,823				40,823	U
38	Gun Mount Mods	A		74,618		3,000		77,618	U
39	LCS Module Weapons	B	90	11,350			90	11,350	U
40	Cruiser Modernization Weapons	A							U
41	Airborne Mine Neutralization Systems	A		22,249				22,249	U
Other									
42	Cancelled Account Adjustments	A							U
Total Other Weapons				227,425		4,540		231,965	
Budget Activity 06: Spares and Repair Parts									

Spares and Repair Parts									
43	Spares and Repair Parts	A		135,688				135,688	U
Total Spares and Repair Parts				135,688				135,688	

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Total Obligational Authority
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Appropriation: 1507N Weapons Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2017 (Base + OCO) Quantity Cost	FY 2018 PB Request with CR Adj Base Quantity Cost	FY 2018 Total PB Requests* with CR Adj Base Quantity Cost	FY 2018 PB Request with CR Adj OCO Quantity Cost	S e c
----	-----	-----	-----	-----	-----	-----	-
Budget Activity 20: Undistributed							

Undistributed							
44	Adj to Match Continuing Resolution	A		-182,268	-182,268	-14,773	U
			-----	-----	-----	-----	
Total Undistributed				-182,268	-182,268	-14,773	
			-----	-----	-----	-----	
Total Weapons Procurement, Navy			3,430,885	3,237,839	3,237,839	137,600	

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Total Obligational Authority
(Dollars in Thousands)

Appropriation: 1507N Weapons Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2018 Total PB Requests+ with CR Adj OCO Quantity	Cost	FY 2018 Emergency Requests** Emergency Quantity	Cost	FY 2018 Less Enacted Div B P.L.115-96*** MDDE + Ship Repairs Quantity	Cost	FY 2018 Remaining Req Emergency Quantity	Cost	S e c -
Budget Activity 20: Undistributed											

Undistributed											
44	Adj to Match Continuing Resolution	A	-14,773								U
			-----		-----		-----		-----		
Total Undistributed			-14,773								
			-----		-----		-----		-----		
Total Weapons Procurement, Navy			137,600								

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(Dollars in Thousands)

Appropriation: 1507N Weapons Procurement, Navy

Line		Ident	FY 2018	FY 2018	FY 2018	
No	Item Nomenclature	Code	Total	Less Enacted	Remaining Req	
			PB Requests*	DIV B	with CR Adj	S
			with CR Adj	P.L.115-96***	Base + OCO +	e
			Base + OCO +	MDDE + Ship	Emergency	c
			Emergency**	Repairs		
			Quantity Cost	Quantity Cost	Quantity Cost	
			-----	-----	-----	-
Budget Activity 20: Undistributed						

Undistributed						
44	Adj to Match Continuing Resolution	A	-197,041		-197,041	U
			-----	-----	-----	
Total Undistributed			-197,041		-197,041	
			-----	-----	-----	
Total Weapons Procurement, Navy			3,375,439		3,375,439	

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Exhibit P-1 FY 2019 President's Budget
Total Obligational Authority
(Dollars in Thousands)

Appropriation: 1507N Weapons Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2019 Base Quantity	Cost	FY 2019 OCO Quantity	Cost	FY 2019 Total Quantity	Cost	S e c
----	-----	-----	-----	----	-----	----	-----	----	-
Budget Activity 20: Undistributed									

Undistributed									
44	Adj to Match Continuing Resolution	A	-----		-----		-----		U
Total Undistributed			-----		-----		-----		
Total Weapons Procurement, Navy			3,702,393		14,134		3,716,527		

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4	02	02	2206	AMRAAM.....	Volume 1 - 53
5	02	02	2209	Sidewinder.....	Volume 1 - 65
6	02	02	2230	JT Standoff Weapon (JSOW).....	Volume 1 - 81
7	02	02	2234	Standard Missile.....	Volume 1 - 89
8	02	02	2234	Standard Missile, Advance Procurement.....	Volume 1 - 101
9	02	02	2238	Small Diameter Bomb II (SDB II).....	Volume 1 - 105
10	02	02	2242	Rolling Airframe Missile (RAM).....	Volume 1 - 113

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13	02	02	2255	Laser Maverick.....	Volume 1 - 157
14	02	02	2264	Stand Off Precision Guided Munitions (SOPGM).....	Volume 1 - 163
15	02	02	2280	Aerial Targets.....	Volume 1 - 169
16	02	02	2290	Other Missile Support.....	Volume 1 - 199
17	02	02	2291	LRASM.....	Volume 1 - 203
18	02	02	2292	LCS OTH Missile.....	Volume 1 - 213
19	02	03	2307	Evolved Sea Sparrow Missile (ESSM).....	Volume 1 - 221
20	02	03	2326	Harpoon Mods.....	Volume 1 - 237
21	02	03	2327	HARM Mods.....	Volume 1 - 245
22	02	03	2356	Standard Missiles Mods.....	Volume 1 - 253
23	02	04	2420	Weapons Industrial Facilities.....	Volume 1 - 261
24	02	04	2433	Fleet Satellite Comm Follow-On.....	Volume 1 - 265
25	02	05	2500	Ordnance Support Equipment.....	Volume 1 - 271

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28	03	01	3141	ASW Targets.....	Volume 1 - 293
29	03	02	3215	MK-54 Torpedo Mods.....	Volume 1 - 305
30	03	02	3225	MK-48 Torpedo ADCAP Mods.....	Volume 1 - 325
31	03	02	3231	Quickstrike Mine.....	Volume 1 - 339
32	03	03	3301	Torpedo Support Equipment.....	Volume 1 - 343
33	03	03	3302	ASW Range Support.....	Volume 1 - 373
34	03	04	2410	First Destination Transportation.....	Volume 1 - 377

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39	04	02	4221	LCS Module Weapons.....	Volume 1 - 427
40	04	02	4223	Cruiser Modernization Weapons.....	Volume 1 - 435
41	04	02	4225	Airborne Mine Neutralization Systems.....	Volume 1 - 439

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Airborne Mine Neutralization Systems	4225	41	04	02.....	Volume 1 - 439
Close-In Wpns Sys (CIWS) Mods	4205	36	04	02.....	Volume 1 - 393
Coast Guard Weapons	4206	37	04	02.....	Volume 1 - 403
Cruiser Modernization Weapons	4223	40	04	02.....	Volume 1 - 435
Evolved Sea Sparrow Missile (ESSM)	2307	19	02	03.....	Volume 1 - 221
First Destination Transportation	2410	34	03	04.....	Volume 1 - 377
Fleet Satellite Comm Follow-On	2433	24	02	04.....	Volume 1 - 265
Gun Mount Mods	4217	38	04	02.....	Volume 1 - 415
HARM Mods	2327	21	02	03.....	Volume 1 - 245
Harpoon Mods	2326	20	02	03.....	Volume 1 - 237
Hellfire	2254	12	02	02.....	Volume 1 - 145
JT Standoff Weapon (JSOW)	2230	6	02	02.....	Volume 1 - 81
Joint Air Ground Missile (JAGM)	2248	11	02	02.....	Volume 1 - 135

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LRASM	2291	17	02	02.....	Volume 1 - 203
Laser Maverick	2255	13	02	02.....	Volume 1 - 157
MK-48 Torpedo	3117	27	03	01.....	Volume 1 - 281
MK-48 Torpedo ADCAP Mods	3225	30	03	02.....	Volume 1 - 325
MK-54 Torpedo Mods	3215	29	03	02.....	Volume 1 - 305
Missile Industrial Facilities	1350	2	01	03.....	Volume 1 - 33
Ordnance Support Equipment	2500	25	02	05.....	Volume 1 - 271
Other Missile Support	2290	16	02	02.....	Volume 1 - 199
Quickstrike Mine	3231	31	03	02.....	Volume 1 - 339
Rolling Airframe Missile (RAM)	2242	10	02	02.....	Volume 1 - 113
Sidewinder	2209	5	02	02.....	Volume 1 - 65
Small Arms and Weapons	4129	35	04	01.....	Volume 1 - 381
Small Diameter Bomb II (SDB II)	2238	9	02	02.....	Volume 1 - 105
Spares and Repair Parts	6120	43	06	01.....	Volume 1 - 451
Stand Off Precision Guided Munitions (SOPGM)	2264	14	02	02.....	Volume 1 - 163
Standard Missile	2234	7	02	02.....	Volume 1 - 89
Standard Missile, Advance Procurement	2234	8	02	02.....	Volume 1 - 101
Standard Missiles Mods	2356	22	02	03.....	Volume 1 - 253

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Torpedo Support Equipment	3301	32	03	03.....	Volume 1 - 343
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6	02	02	2230	JT Standoff Weapon (JSOW).....	Volume 1 - 81
7	02	02	2234	Standard Missile.....	Volume 1 - 89
8	02	02	2234	Standard Missile, Advance Procurement.....	Volume 1 - 101
9	02	02	2238	Small Diameter Bomb II (SDB II).....	Volume 1 - 105
10	02	02	2242	Rolling Airframe Missile (RAM).....	Volume 1 - 113

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14	02	02	2264	Stand Off Precision Guided Munitions (SOPGM).....	Volume 1 - 163
15	02	02	2280	Aerial Targets.....	Volume 1 - 169
16	02	02	2290	Other Missile Support.....	Volume 1 - 199
17	02	02	2291	LRASM.....	Volume 1 - 203
18	02	02	2292	LCS OTH Missile.....	Volume 1 - 213
19	02	03	2307	Evolved Sea Sparrow Missile (ESSM).....	Volume 1 - 221
20	02	03	2326	Harpoon Mods.....	Volume 1 - 237
21	02	03	2327	HARM Mods.....	Volume 1 - 245
22	02	03	2356	Standard Missiles Mods.....	Volume 1 - 253
23	02	04	2420	Weapons Industrial Facilities.....	Volume 1 - 261
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28	03	01	3141	ASW Targets.....	Volume 1 - 293
29	03	02	3215	MK-54 Torpedo Mods.....	Volume 1 - 305
30	03	02	3225	MK-48 Torpedo ADCAP Mods.....	Volume 1 - 325
31	03	02	3231	Quickstrike Mine.....	Volume 1 - 339
32	03	03	3301	Torpedo Support Equipment.....	Volume 1 - 343
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39	04	02	4221	LCS Module Weapons.....	Volume 1 - 427
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Coast Guard Weapons	4206	37	04	02.....	Volume 1 - 403
Cruiser Modernization Weapons	4223	40	04	02.....	Volume 1 - 435
Evolved Sea Sparrow Missile (ESSM)	2307	19	02	03.....	Volume 1 - 221
First Destination Transportation	2410	34	03	04.....	Volume 1 - 377
Fleet Satellite Comm Follow-On	2433	24	02	04.....	Volume 1 - 265
Gun Mount Mods	4217	38	04	02.....	Volume 1 - 415
HARM Mods	2327	21	02	03.....	Volume 1 - 245
Harpoon Mods	2326	20	02	03.....	Volume 1 - 237
Hellfire	2254	12	02	02.....	Volume 1 - 145
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LRASM	2291	17	02	02.....	Volume 1 - 203
Laser Maverick	2255	13	02	02.....	Volume 1 - 157
MK-48 Torpedo	3117	27	03	01.....	Volume 1 - 281
MK-48 Torpedo ADCAP Mods	3225	30	03	02.....	Volume 1 - 325
MK-54 Torpedo Mods	3215	29	03	02.....	Volume 1 - 305
Missile Industrial Facilities	1350	2	01	03.....	Volume 1 - 33
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Exhibit MYP-1, Multiyear Procurement Criteria		Date: September 2018
Appropriation / Budget Activity: 1507 Weapons Procurement - Navy / Other Missiles (BA-02)		P-1 Item Nomenclature: Standard Missile (SM-6)
<p>1. <u>Multiyear Procurement Description:</u></p> <p>This multiyear procurement (MYP) provides for the procurement of up to 625 Standard Missile-6 (SM-6) Block I/IA guided missiles for fiscal year (FY) 2019 through FY 2023 program. Advance procurement for economic order quantities begin in FY 2019. This is a five year MYP contract.</p> <p>This multiyear contract uses Economic Order Quantity Advance Procurement funding to provide the U.S. Government maximum savings in price. Advance Procurement funding will enable material and component suppliers and subcontractors with sufficient lead time to support the planned delivery schedule within the context of the multiyear funding, prices, and cancellation ceilings.</p>		
<p>2. <u>Benefit to the Government:</u></p> <p>a. <u>Substantial Savings:</u></p> <p>Implementation of this proposed multiyear procurement (MYP) will yield substantial savings through the term of the contract. Specifically, savings for FY 2019 through FY 2023 attributable to this MYP strategy is estimated at \$331.4 million for a total of 13.7 percent.</p> <p>b. <u>Stability of Requirement:</u></p> <p>The SM-6 program is one of the core Department of Navy missile programs. The Navy requirement for SM-6 is well documented in the Capability Production Document validated December 23, 2008 by the Joint Requirements Oversight Council. The Navy and Resource and Requirements Review Board (R3B) of March 13, 2013 established a requirement for 1800 SM-6 missiles. SM-6 leverages the legacy STANDARD Missile airframe and propulsion elements, while incorporating the advanced signal processing and guidance control capabilities of Advanced Medium-Range Air-to-Air Missile (AMRAAM). SM-6 provides air defense against fixed-wing and rotary-wing aircraft, unmanned aerial vehicles, and land-attack anti-ship cruise missiles in flight, both over sea and land. SM-6 Block I is in full rate production; production commenced in FY 2009. SM-6 Block IA is in full rate production; Low Rate Initial Production (LRIP) commenced in FY 2015. A production rate of 125 missiles per year (mix of Block I/IAs) is planned through the MYP period</p> <p>c. <u>Stability of Funding:</u></p> <p>Sufficient funding exists within current budget controls to execute this procurement plan. The SM-6 program is one of the core Department of Navy missile programs and is approved through the current Future Years Defense Program. The Navy has demonstrated its commitment to a stable funding stream for the SM-6 MYP through every step of this year's budget process by fully funding the requirement. This commitment was reaffirmed by top level Navy and DoD leadership through its support in the final budget submission.</p> <p>d. <u>Stable Configuration:</u></p> <p>SM-6 Block I achieved Full Operational Capability (FOC) of 266 delivered missiles on December 27, 2017 and 411 SM-6 Block I missiles have been delivered as of December 31, 2017. SM-6 Block IA LRIP missile deliveries will commence in 4QFY2018. The minimum need for the material to be purchased is expected to remain</p>		
		Exhibit MYP-1, Multiyear Procurement Criteria (MYP, Page 1 of 6)

Exhibit MYP-1, Multiyear Procurement CriteriaDate:
September 2018**Appropriation / Budget Activity:**

1507 Weapons Procurement - Navy / Other Missiles (BA-02)

P-1 Item Nomenclature:

Standard Missile (SM-6)

substantially unchanged during the planned contract period in terms of production rate, procurement rate and total quantities. All SM-6 Block I/IA missiles procured under the multi-year contract would be of the same design. Concurrent procurement of material will ensure that sufficient parts exist to maintain a stable configuration.

e. Realistic Cost Estimate:

Cost Estimates reflect experience with Standard Missile 2 (SM-2) and SM-6 manufacturing since 1996 with the SM-2 Block IIIB configuration. SM-6 actual contract data is used to support cost estimates. SM-6 Program Life Cycle Cost Estimate (PLCCE) is updated in support of a FRP decision and Cost Assessment and Program Evaluation (CAPE) Independent Cost Estimate (ICE) in 2013. The latest PLCCE revision was documented in the Navy Service Cost Position (SCP) as part of the SM-6 FRP documentation in April 2013. This estimate was in concurrence with the ICE prepared by the CAPE for FRP which was documented in the Acquisition Decision Memorandum (ADM) dated July 15, 2013 and became the basis for the current Acquisition Performance Baseline (APB) approved in August 09, 2013. The SM-6 Life Cycle Cost has also been reported in the Annual Selected Acquisition Report (SAR), the latest of which was submitted in May 2017. There is a high degree of confidence the SM-6 program can achieve the stated savings and procure the MYP missiles within the funding identified. The five year MYP will be a firm fixed price contract.

f. National Security:

The SM-6 is the primary extended range air defense weapon for AEGIS cruisers and destroyers and potentially for future combatants. SM-6 provides an extended range engagement capability to provide the air superiority and the umbrella of protection for joint U.S. forces and allies against the full spectrum of manned fixed & rotary-winged aircraft, unmanned aerial vehicles, & land attack and anti-ship cruise missiles in flight. This capability contributes significantly to the continuous protection of forward deployed ground maneuver forces as well as theater rear assets. A stable procurement will also help maintain inventory levels required for the defense of the U.S. Fleet.

3. Source of Savings:

The stability and upfront material purchase of a multiyear contract for SM-6 will enable the Prime Contractor and its suppliers to implement a more efficient planning and manufacturing cycle predicated on a production rate that supports the delivery cycle.

	<u>\$ in Millions</u>
Inflation	\$0.000
Vendor Procurement	\$331.382
Manufacturing	\$0.000
Design/Engineering	\$0.000
Tool Design	\$0.000
Support Equipment	\$0.000
Other	\$0.000
Workload Savings	\$0.000
Total	\$331.382

Exhibit MYP-1, Multiyear Procurement Criteria

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Exhibit MYP-1, Multiyear Procurement CriteriaDate:
September 2018**Appropriation / Budget Activity:**

1507 Weapons Procurement - Navy / Other Missiles (BA-02)

P-1 Item Nomenclature:

Standard Missile (SM-6)

4. Advantages of the MYP:

The proposed multi-year contract provides significant savings over a year-by-year contracting approach. Savings from economic order quantities and independent planning result in benefit to industry and government. In addition to providing substantial cost savings, MYP will provide the following benefits: (1) generate significant savings compared to the annual procurement cost estimates; (2) provide a long-term commitment to industry, stabilizing employment and the industrial base; (3) reduce disruptions in vendor delivery schedules; and (4) improve procurement stability. MYP would permit the use of Advance Procurement (AP) and economic order quantity (EOQ) procurement to reduce the cost of subcontractor effort, material, and components enabling greater production efficiencies and substantial cost savings.

5. Impact on Defense Industrial Base:

The stability afforded by the use of a multiyear procurement will allow the prime contractor to enter into long term agreements with suppliers, at every tier, which provide substantial benefit. Such long term agreements incentivize both the prime and the subcontractors to invest in process improvements that yield long term benefits in terms of product quality and cost. The contractor and subcontractor will be at a reduced risk when implementing production process improvements, facility improvements, tooling design improvements, and fabrication process improvements. The ability for the government and industry to enter into a long-term agreement will allow industry the opportunity to place capital investments upfront, which reduces the overall cost and improves the quality of the SM-6.

6. Multiyear Procurement Summary:

	<u>Annual Contracts</u>	<u>MultiYear Contract</u>
Quantity	625	625
Total Contract Price	\$2,415.490	\$2,084.108
Cancellation Ceiling (highest point)		
Funded		\$ 0.000
Unfunded		\$ 0.000
\$ Cost Avoidance Over Annual		\$331.382
% Cost Avoidance Over Annual		13.7%

Exhibit MYP-1, Multiyear Procurement Criteria

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Exhibit MYP-2 Total Program Funding Plan (NAVY)					Date: September 2018						
PROCUREMENT					P-1 Line Item Nomenclature - Standard Missile (SM-6) (NAVY)						
	2019	2020	2021	2022	2023	2024	2025	2026	2027		TOTAL
Procurement Quantity	125	125	125	125	125						625
Annual Procurement											
Gross Cost	586.1	534.4	543.7	554.6	565.7						2784.4
Less PY Adv Procurement											
Net Procurement (= P-1)	586.1	534.4	543.7	554.6	565.7						2784.4
Plus CY Adv Procurement											
Weapon System Cost	586.1	534.4	543.7	554.6	565.7						2784.4
Multiyear Procurement											
Gross Cost (P-1)	490.2	488.6	490.7	489.1	489.3						2447.9
Less PY Adv Procurement		(83.8)	(83.6)	(83.5)	(83.3)						(334.3)
Net Procurement (= P-1)	490.2	404.8	407.1	405.6	406.0						2113.7
Advance Procurement											
For FY20	83.8										83.8
For FY21	25.1	58.5									83.6
For FY22	16.8	20.8	45.9								83.5
For FY23		16.7	20.8	45.8							83.3
Plus CY Adv Procurement	125.7	96.1	66.7	45.8							334.3
Weapon System Cost	615.9	500.9	473.8	451.4	406.0						2447.9
Multiyear Savings (\$)	(29.8)	33.4	69.8	103.3	159.7						336.5
Multiyear Savings (%) (total only)											12.1%
Cancellation Ceiling, Funded											
Cancellation Ceiling, Unfunded											
OUTLAYS											
Annual	35.2	55.5	229.8	567.0	539.8	515.2	502.5	339.4			2784.4
Multiyear	37.0	54.7	233.2	565.8	485.1	435.9	392.6	243.6			2447.9
Savings	(1.8)	0.8	(3.4)	1.1	54.7	79.3	109.9	95.8			336.5

P-1 Shopping List - Item No
02-2234

* Numbers may not add due to rounding.

Exhibit MYP-2, Total Program Funding Plan
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Exhibit MYP-3 Total Contract Funding Plan (NAVY)					Date: September 2018						
PROCUREMENT					P-1 Line Item Nomenclature - Standard Missile (SM-6) (NAVY)						
	2019	2020	2021	2022	2023	2024	2025	2026	2027		TOTAL
Procurement Quantity	125	125	125	125	125						625
Annual Procurement											
Gross Cost	516.4	461.7	469.9	479.3	488.2						2415.5
Less PY Adv Procurement											
Net Procurement (= P-1)	516.4	461.7	469.9	479.3	488.2						2415.5
Plus CY Adv Procurement											
Contract Price	516.4	461.7	469.9	479.3	488.2						2415.5
Multiyear Procurement											
Gross Cost (P-1)	421.6	417.1	418.1	414.3	413.0						2084.1
Less PY Adv Procurement		(83.8)	(83.6)	(83.5)	(83.3)						(334.3)
Net Procurement (= P-1)	421.6	333.3	334.5	330.8	329.6						1749.9
Advance Procurement											
For FY20	83.8										83.8
For FY21	25.1	58.5									83.6
For FY22	16.8	20.8	45.9								83.5
For FY23		16.7	20.8	45.8							83.3
Plus CY Adv Procurement	125.7	96.1	66.7	45.8							334.3
Contract Price	547.3	429.4	401.2	376.6	329.6						2084.1
Multiyear Savings (\$)	(30.9)	32.3	68.7	102.8	158.5						331.4
Multiyear Savings (%) (total only)											13.7%
Cancellation Ceiling, Funded											
Cancellation Ceiling, Unfunded											
OUTLAYS											
Annual	1.5	22.0	174.8	498.0	465.0	472.0	461.4	320.7			2415.5
Multiyear	1.6	23.2	182.6	505.6	418.5	389.7	346.3	216.6			2084.1
Savings	(0.1)	(1.1)	(7.8)	(7.6)	46.4	82.3	115.1	104.1			331.4

P-1 Shopping List - Item No
02-2234

* Numbers may not add due to rounding.

Exhibit MYP-3, Total Contract Funding Plan
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Exhibit MYP-4 Present Value Analysis (NAVY)					Date: September 2018						
PROCUREMENT					P-1 Line Item Nomenclature - Standard Missile (SM-6) (NAVY)						
	2019	2020	2021	2022	2023	2024	2025	2026	2027		TOTAL
Annual Proposal											
Then Year Cost	1.5	22.0	174.8	498.0	465.0	472.0	461.4	320.7			2415.5
Constant Year Cost	1.5	21.2	164.8	460.2	421.3	419.3	401.8	273.8			2163.9
Present Value	1.5	21.2	164.5	459.4	420.4	418.3	400.7	273.0			2158.8
Multiyear Proposal											
Then Year Cost	1.6	23.2	182.6	505.6	418.5	389.7	346.3	216.6			2084.1
Constant Year Cost	1.6	22.3	172.1	467.2	379.2	346.2	301.6	184.9			1875.1
Present Value	1.6	22.3	171.8	466.4	378.4	345.3	300.7	184.3			1870.9
Difference											
Then Year Cost	(0.1)	(1.1)	(7.8)	(7.6)	46.4	82.3	115.1	104.1			331.4
Constant Year Cost	(0.1)	(1.1)	(7.3)	(7.0)	42.0	73.1	100.2	88.9			288.8
Present Value	(0.1)	(1.1)	(7.3)	(7.0)	42.0	72.9	99.9	88.6			288.0
Multiyear Savings (\$)	(0.1)	(1.1)	(7.8)	(7.6)	46.4	82.3	115.1	104.1			331.4

NOTE: MYP Procurement Period is 8 years. Real Interest Rate for MYP Procurement Period of 8 years is 1.00030000%.
(OMB Circular No. A-94, January 2018)

* Numbers may not add due to rounding.

Exhibit MYP-4 Present Value Analysis
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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy										Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 01: Ballistic Missiles / BSA 2: Modification of Missiles							P-1 Line Item Number / Title: 1250 / TRIDENT II Mods					
ID Code (A=Service Ready, B=Not Service Ready): A				Program Elements for Code B Items: N/A				Other Related Program Elements: 0603561N, 06030570N, 09012111N, 0101221N				
Line Item MDAP/MAIS Code: N/A												
Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	13,416.219	1,099.086	1,143.595	1,078.750	0.000	1,078.750	1,178.210	1,217.078	1,205.587	1,308.930	3,215.106	24,862.561
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	13,416.219	1,099.086	1,143.595	1,078.750	0.000	1,078.750	1,178.210	1,217.078	1,205.587	1,308.930	3,215.106	24,862.561
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	13,416.219	1,099.086	1,143.595	1,078.750	0.000	1,078.750	1,178.210	1,217.078	1,205.587	1,308.930	3,215.106	24,862.561
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Thousands</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Thousands</i>)	-	-	-	-	-	-	-	-	-	-	-	-
<p>Description:</p> <p>The TRIDENT II (D5) missiles will be carried on OHIO CLASS Fleet Ballistic Missile Submarines through 2042 and will be the intial payload for the COLUMBIA Class Fleet Ballistic Missile Submarines. The D5 Life Extension (D5LE) program will ensure that the United States continues to maintain a highly survivable strategic deterrent well into the 21st century. The TRIDENT II missile (1) enhances fleet ballistic missile submarine survivability as it increases the sea launched ballistic missile range at full payload to exploit the total patrol area available to the TRIDENT submarine, (2) minimizes total weapon system costs as it has increased the sea launched ballistic missile payload to the level permitted by the size of the TRIDENT submarine launch tube, thereby allowing mission capability to be achieved with fewer submarines, and (3) has added an efficient hard target kill capability to the sea launched ballistic missiles.</p> <p>Major D5 Life Extension Costs Include:</p> <p>Production Support: Funding supports D5 Life Extension (D5LE) system integration, D5LE tooling and test equipment, D5LE Flight Test Instrumentation and Analysis, support for the new Test Missile Kits (TMK's), and D5LE end of production costs.</p> <p>Guidance Hardware: Includes procurement of subcomponents necessary for a complete Guidance System which consists of an Inertial Measurement Unit (IMU) and Electronics Assembly (EA). Within the IMU and EA there are numerous sub-components which are included in this cost element including Guidance Circuit Card Assemblies (CCA), Guidance Accelerometer Sensors (PIGA), Interferometric Fiber Optic Gyros (IFOG), Detector Package Assemblies (DPA) and Mk6 LE Electronic Part Sets (LEEP) and associated production support.</p> <p>Fleet Return Missile Electronic SPALT Kits: Includes procurement of the 4 Missile Electronics Packages and associated production support in order to extend the life of the D5 Missile to align with the Ohio Class life.</p> <p>Joint Fuze Sustainment: Includes the procurement of the Arming Fuzing & Firing (AF&F) kits.</p> <p>Major Operating and Support Costs Include:</p> <p>Solid Rocket Motor's (SRM's) and Post Boost Control systems (PBCS's): Includes procurement of SRM's, PBCS's, and all associated costs including production requalification, HMX procurement, tooling, railcar support and Production Evaluation Testing and Static Firing.</p>												

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy		Date: February 2018
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 01: Ballistic Missiles / BSA 2: Modification of Missiles		P-1 Line Item Number / Title: 1250 / TRIDENT II Mods
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0603561N, 06030570N, 09012111N, 0101221N
Line Item MDAP/MAIS Code: N/A		
<p>Strategic Arms Reduction Treaty (New START): Funding supports the nuclear arms reduction treaty (New START) between the United States and the Russian Federation which limits the number of deployed launchers.</p>		

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy								Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 01: Ballistic Missiles / BSA 2: Modification of Missiles						P-1 Line Item Number / Title: 1250 / TRIDENT II Mods				
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A			Other Related Program Elements: 0603561N, 06030570N, 09012111N, 0101221N				
Line Item MDAP/MAIS Code: N/A										
Exhibits Schedule					Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	1 / TRIDENT II Mods - D5 Life Extension	P-5a, P-21		178	- / 9,215.467	- / 614.046	- / 646.766	- / 576.540	- / 0.000	- / 576.540
P-5	2 / TRIDENT II Mods -Operating and Support Costs	P-5a, P-21			- / 4,200.752	- / 485.040	- / 496.829	- / 502.210	- / 0.000	- / 502.210
P-40	Total Gross/Weapon System Cost				- / 13,416.219	- / 1,099.086	- / 1,143.595	- / 1,078.750	- / 0.000	- / 1,078.750
<p>*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.</p> <p>Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.</p>										
<p>Justification:</p> <p>Funding in the TRIDENT II Mods line is required to continue the procurement of TRIDENT II missiles and currently supports the life-extension of the D5 missile. The FY 2019 request of \$576.540 million for the D5 Life Extension (D5LE) Program, supports the redesign of the guidance system and missile electronics packages, which must be replaced to support the extended service life of the Ohio Class Submarines. FY 2019 funding procures missile electronic and guidance SPALT kits as well as other critical components required to support the extended SSBN hull life for a 14 SSBN TRIDENT II program.</p> <p>Increases from FY 2018 to FY 2019 include:</p> <ul style="list-style-type: none"> - Increased QTY procurements of Guidance Electronic package subcomponents that are required to meet shipfill and STRATCOM requirements. - An increase in Joint Fuze Sustainment for the First Production Unit(FPU) and follow on units for the Arming Fuzing and Firing (AF&F) Kit which is scheduled for December 2019. In order to meet the FPU and deployment schedule, piece part procurement increases from FY 2018 to FY 2019 are required for various commodities to include the Impact Fuze, Terminal Protection Device (TPD), Thermal Battery Assembly (TBA), Pathlength Module (PLM), Missile Interface and Controllers Module (MICM), and the Radar Module (RM). Additional hardware such as Application Specific Integrated Circuits (ASICs), Heterojunction Bipolar Transistor (HBTs), and Igniters continue to be in full production in FY 2019. As piece part procurement increases and AF&F production is fully operational, production and systems engineering support at the Department of Energy facilities increases to support the AF&F production activities. <p>The FY 2019 request of \$502.210 million for Operating and Support Costs funds efforts associated with the sustainment of TRIDENT II (D5) missiles to include system integration efforts, replacement of aging rocket motors, refreshes and replacement of D5 legacy tooling and test support equipment, Supportability Mods/Strategic Programs Alteration (SPALT) Insertion and modifications required for NEW START treaty obligations.</p> <p>Increases from FY 2018 to FY 2019 include:</p> <ul style="list-style-type: none"> -Increase in Warhead Components to support the '-3 Option' program initiation efforts including but not limited to, evaluating and updating requirements documentation, SPALT development, updating facility handling/processing documentation, development of implementation concept of operations, initiation of the qualification efforts, and safety study and DoE production engineering. -Shape Stable Nostip (SSNT) - The Mk4A SSNT effort will convert reentry body forward shell assemblies (FSA's) from legacy carbon composite nose tips to SSNT's. FY 2019 WPN resources support development and assembly of a flight test body that will be flown in FY 2020 to evaluate developmental hardware performance. <p>The FY 2019 funding request was reduced by \$18.523 million to reflect the Department of Navy's effort to support the Office of Management and Budget directed reforms for Efficiency and Effectiveness that include a lean, accountable, more efficient government.</p>										

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Exhibit P-5, Cost Analysis: PB 2019 Navy												Date: February 2018						
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 01 / 2						P-1 Line Item Number / Title: 1250 / TRIDENT II Mods						Item Number / Title [DODIC]: 1 / TRIDENT II Mods - D5 Life Extension						
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code: 178								
Resource Summary				Prior Years		FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total				
Procurement Quantity <i>(Units in Each)</i>				-		-		-		-		-		-				
Gross/Weapon System Cost <i>(\$ in Millions)</i>				9,215.467		614.046		646.766		576.540		0.000		576.540				
Less PY Advance Procurement <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Net Procurement (P-1) <i>(\$ in Millions)</i>				9,215.467		614.046		646.766		576.540		0.000		576.540				
Plus CY Advance Procurement <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Total Obligation Authority <i>(\$ in Millions)</i>				9,215.467		614.046		646.766		576.540		0.000		576.540				
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)																		
Initial Spares <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Gross/Weapon System Unit Cost <i>(\$ in Thousands)</i>				-		-		-		-		-		-				
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Flyaway - Missile End Cost																		
Recurring Cost																		
1.1.1) Airframe & Motor Flyaway Cost ^(†)	50,814.833	48	2,439.112	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
1.1.2) SPALT Kits ^(†)	3,580.556	108	386.700	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
1.1.3) Prior Year Procurement	-	-	-1,183.600	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
Subtotal: Recurring Cost	-	-	1,642.212	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
Subtotal: Flyaway - Missile End Cost	-	-	1,642.212	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
Hardware - Missile Hardware Cost																		
Recurring Cost																		
2.1.1) Missile Hardware	-	-	1,549.266	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
Subtotal: Recurring Cost	-	-	1,549.266	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
Subtotal: Hardware - Missile Hardware Cost	-	-	1,549.266	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
Hardware - Redesign Cost																		
Recurring Cost																		
3.1.1) Redesign	-	-	2,787.145	-	-	47.687	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
Subtotal: Recurring Cost	-	-	2,787.145	-	-	47.687	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
Subtotal: Hardware - Redesign Cost	-	-	2,787.145	-	-	47.687	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
Hardware - Joint Fuze Sustainment Cost																		

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Exhibit P-5, Cost Analysis: PB 2019 Navy													Date: February 2018					
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 01 / 2							P-1 Line Item Number / Title: 1250 / TRIDENT II Mods						Item Number / Title [DODIC]: 1 / TRIDENT II Mods - D5 Life Extension					
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code: 178								
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Recurring Cost																		
4.1.1) Joint Fuze Sustainment ^(†)	-	-	24.975	-	-	23.100	-	-	41.254	2,148.400	30	64.452	-	-	0.000	2,148.400	30	64.452
Subtotal: Recurring Cost	-	-	24.975	-	-	23.100	-	-	41.254	-	-	64.452	-	-	0.000	-	-	64.452
Subtotal: Hardware - Joint Fuze Sustainment Cost	-	-	24.975	-	-	23.100	-	-	41.254	-	-	64.452	-	-	0.000	-	-	64.452
Hardware - Production Support Cost																		
Recurring Cost																		
5.1.1) Production Support	-	-	1,483.792	-	-	210.176	-	-	234.256	-	-	148.616	-	-	0.000	-	-	148.616
Subtotal: Recurring Cost	-	-	1,483.792	-	-	210.176	-	-	234.256	-	-	148.616	-	-	0.000	-	-	148.616
Subtotal: Hardware - Production Support Cost	-	-	1,483.792	-	-	210.176	-	-	234.256	-	-	148.616	-	-	0.000	-	-	148.616
Hardware - Guidance Hardware Cost																		
Recurring Cost																		
6.1.1) Circuit Card Assemblies (CCA's) ^(†)	1,538.727	264	406.224	1,660.184	49	81.349	1,591.000	55	87.505	1,515.000	62	93.930	-	-	0.000	1,515.000	62	93.930
6.1.2) Interferometric Fiber-Optic Gyro (IFOG) ^(†)	135.514	601	81.444	149.523	130	19.438	125.000	185	23.125	122.000	200	24.400	-	-	0.000	122.000	200	24.400
6.1.3) Detector Package Assembly (DPA)	220.000	868	190.960	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
6.1.4) MK6 LE Electronic Piece Parts (LEEP Set) ^(†)	994.101	554	550.732	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
6.1.5) Guidance Accelerometer Sensors (PIGA) ^(†)	231.271	550	127.199	261.664	125	32.708	240.000	180	43.200	231.000	200	46.200	-	-	0.000	231.000	200	46.200
6.1.6) Guidance Production Support	-	-	215.187	-	-	44.176	-	-	60.016	-	-	45.871	-	-	0.000	-	-	45.871
Subtotal: Recurring Cost	-	-	1,571.746	-	-	177.671	-	-	213.846	-	-	210.401	-	-	0.000	-	-	210.401
Subtotal: Hardware - Guidance Hardware Cost	-	-	1,571.746	-	-	177.671	-	-	213.846	-	-	210.401	-	-	0.000	-	-	210.401
Hardware - Fleet Return Missile Electronic SPALT Kits Cost																		
Recurring Cost																		
7.1.1) Flight Control Electronic Assembly (FCEA) ^(†)	607.394	33	20.044	618.925	40	24.757	630.700	40	25.228	642.683	41	26.350	-	-	0.000	642.683	41	26.350

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Exhibit P-5, Cost Analysis: PB 2019 Navy													Date: February 2018					
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 01 / 2						P-1 Line Item Number / Title: 1250 / TRIDENT II Mods							Item Number / Title [DODIC]: 1 / TRIDENT II Mods - D5 Life Extension					
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code: 178								
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
7.1.2) Missile Inverter ^(†)	830.500	24	19.932	846.286	21	17.772	862.400	20	17.248	878.760	25	21.969	-	-	0.000	878.760	25	21.969
7.1.3) Command Sequencer ^(†)	656.833	24	15.764	669.316	19	12.717	682.000	19	12.958	694.947	19	13.204	-	-	0.000	694.947	19	13.204
7.1.4) Interlocks ^(†)	1,150.417	36	41.415	1,172.293	41	48.064	1,194.561	41	48.977	1,217.244	41	49.907	-	-	0.000	1,217.244	41	49.907
7.1.5) Missile Production Support	-	-	59.176	-	-	52.102	-	-	52.999	-	-	41.641	-	-	0.000	-	-	41.641
Subtotal: Recurring Cost	-	-	156.331	-	-	155.412	-	-	157.410	-	-	153.071	-	-	0.000	-	-	153.071
Subtotal: Hardware - Fleet Return Missile Electronic SPALT Kits Cost	-	-	156.331	-	-	155.412	-	-	157.410	-	-	153.071	-	-	0.000	-	-	153.071
Gross/Weapon System Cost	-	-	9,215.467	-	-	614.046	-	-	646.766	-	-	576.540	-	-	0.000	-	-	576.540

^(†) indicates the presence of a P-5a

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Exhibit P-5a, Procurement History and Planning: PB 2019 Navy								Date: February 2018				
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 01 / 2				P-1 Line Item Number / Title: 1250 / TRIDENT II Mods				Item Number / Title [DODIC]: 1 / TRIDENT II Mods - D5 Life Extension				
Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$ K)	Specs Avail Now?	Date Revision Available	RFP Issue Date
1.1.1) Airframe & Motor Flyaway Cost		2011	Lockheed Martin / Sunnyvale, CA	Various	SSP - Crystal City, VA	Dec 2010	Feb 2014	24	22,098.375	Y		
1.1.1) Airframe & Motor Flyaway Cost		2012	Lockheed Martin / Sunnyvale, CA	Various	SSP - Washington Navy Yard	Dec 2011	Feb 2015	24	22,150.583	Y		
1.1.2) SPALT Kits ^(†)		2011	Lockheed Martin / Sunnyvale, CA	Various	SSP - Washington Navy Yard	Dec 2010	Feb 2014	12	6,460.330	Y		
1.1.2) SPALT Kits ^(†)		2012	Lockheed Martin / Sunnyvale, CA	Various	SSP - Washington Navy Yard	Dec 2011	Feb 2015	24	3,221.710	Y		
1.1.2) SPALT Kits ^(†)		2013	Lockheed Martin / Sunnyvale, CA	Various	SSP - Washington Navy Yard	Dec 2012	Feb 2016	24	3,193.080	Y		
1.1.2) SPALT Kits ^(†)		2014	Lockheed Martin / Sunnyvale, CA	Various	SSP - Washington Navy Yard	Nov 2013	Feb 2017	24	3,180.880	Y		
1.1.2) SPALT Kits ^(†)		2015	Lockheed Martin / Sunnyvale, CA	Various	SSP - Washington Navy Yard	Nov 2014	Feb 2018	22	3,281.727	Y		
1.1.2) SPALT Kits ^(†)		2016	Lockheed Martin / Sunnyvale, CA	Various	SSP - Washington Navy Yard	Nov 2015	Feb 2019	2	3,341.000	Y		
4.1.1) Joint Fuze Sustainment ^(†)		2019	Department of Energy (DOE) / Kansas City	Various	SSP - Washington Navy Yard	Oct 2018	Nov 2019	30	2,148.400	Y		
6.1.1) Circuit Card Assemblies (CCA's) ^(†)		2015	Charles Stark Draper Laboratory, INC / Cambridge MA	Various	SSP - Washington Navy Yard	Feb 2015	Sep 2015	50	1,602.000	Y		
6.1.1) Circuit Card Assemblies (CCA's) ^(†)		2016	Charles Stark Draper Laboratory, INC / Cambridge MA	Various	SSP - Washington Navy Yard	Feb 2016	Sep 2016	51	1,629.235	Y		
6.1.1) Circuit Card Assemblies (CCA's) ^(†)		2017	Charles Stark Draper Laboratory, INC / Cambridge MA	Various	SSP - Washington Navy Yard	Feb 2017	Sep 2017	49	1,660.184	Y		
6.1.1) Circuit Card Assemblies (CCA's) ^(†)		2018	Charles Stark Draper Laboratory, INC / Cambridge MA	Various	SSP - Washington Navy Yard	Feb 2018	Sep 2018	55	1,591.000	Y		
6.1.1) Circuit Card Assemblies (CCA's) ^(†)		2019	Charles Stark Draper Laboratory, INC / Cambridge MA	Various	SSP - Washington Navy Yard	Feb 2019	Sep 2019	62	1,515.000	Y		
6.1.2) Interferometric Fiber-Optic Gyro (IFOG) ^(†)		2015	Charles Stark Draper Laboratory, INC / Cambridge MA	Various	SSP - Washington Navy Yard	Feb 2015	Feb 2016	130	144.000	Y		
6.1.2) Interferometric Fiber-Optic Gyro (IFOG) ^(†)		2016	Charles Stark Draper Laboratory, INC / Cambridge MA	Various	SSP - Washington Navy Yard	Feb 2016	Feb 2017	130	146.738	Y		
6.1.2) Interferometric Fiber-Optic Gyro (IFOG) ^(†)		2017	Charles Stark Draper Laboratory, INC / Cambridge MA	Various	SSP - Washington Navy Yard	Feb 2017	Feb 2018	130	149.523	Y		
6.1.2) Interferometric Fiber-Optic Gyro (IFOG) ^(†)		2018	Charles Stark Draper Laboratory, INC / Cambridge MA	Various	SSP - Washington Navy Yard	Feb 2018	Feb 2019	185	125.000	Y		

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Exhibit P-5a, Procurement History and Planning: PB 2019 Navy								Date: February 2018				
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 01 / 2				P-1 Line Item Number / Title: 1250 / TRIDENT II Mods				Item Number / Title [DODIC]: 1 / TRIDENT II Mods - D5 Life Extension				
Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$ K)	Specs Avail Now?	Date Revision Available	RFP Issue Date
6.1.2) Interferometric Fiber-Optic Gyro (IFOG) ^(†)		2019	Charles Stark Draper Laboratory, INC / Cambridge MA	Various	SSP - Washington Navy Yard	Feb 2019	Feb 2020	200	122.000	Y		
6.1.4) MK6 LE Electronic Piece Parts (LEEP Set) ^(†)		2015	Charles Stark Draper Laboratory, INC / Cambridge MA	Various	SSP - Washington Navy Yard	Feb 2015	Apr 2016	109	1,014.927	Y		
6.1.5) Guidance Accelerometer Sensors (PIGA) ^(†)		2015	Charles Stark Draper Laboratory, INC / Cambridge MA	Various	SSP - Washington Navy Yard	Feb 2015	Jun 2016	125	252.000	Y		
6.1.5) Guidance Accelerometer Sensors (PIGA) ^(†)		2016	Charles Stark Draper Laboratory, INC / Cambridge MA	Various	SSP - Washington Navy Yard	Feb 2016	Jun 2017	125	256.792	Y		
6.1.5) Guidance Accelerometer Sensors (PIGA) ^(†)		2017	Charles Stark Draper Laboratory, INC / Cambridge MA	Various	SSP - Washington Navy Yard	Feb 2017	Jun 2018	125	261.664	Y		
6.1.5) Guidance Accelerometer Sensors (PIGA) ^(†)		2018	Charles Stark Draper Laboratory, INC / Cambridge MA	Various	SSP - Washington Navy Yard	Feb 2018	Jun 2019	180	240.000	Y		
6.1.5) Guidance Accelerometer Sensors (PIGA) ^(†)		2019	Charles Stark Draper Laboratory, INC / Cambridge MA	Various	SSP - Washington Navy Yard	Feb 2019	Jun 2020	200	231.000	Y		
7.1.1) Flight Control Electronic Assembly (FCEA) ^(†)		2016	Lockheed Martin / Sunnyvale, CA	Various	SSP - Washington Navy Yard	Nov 2015	Nov 2017	33	607.394	Y		
7.1.1) Flight Control Electronic Assembly (FCEA) ^(†)		2017	Lockheed Martin / Sunnyvale, CA	Various	SSP - Washington Navy Yard	Nov 2016	Nov 2018	40	618.925	Y		
7.1.1) Flight Control Electronic Assembly (FCEA) ^(†)		2018	Lockheed Martin / Sunnyvale, CA	Various	SSP - Washington Navy Yard	Nov 2017	Nov 2019	40	630.700	Y		
7.1.1) Flight Control Electronic Assembly (FCEA) ^(†)		2019	Lockheed Martin / Sunnyvale, CA	Various	SSP - Washington Navy Yard	Nov 2018	Nov 2020	41	642.683	Y		
7.1.2) Missile Inverter ^(†)		2016	Lockheed Martin / Sunnyvale, CA	Various	SSP - Washington Navy Yard	Nov 2015	Jan 2018	24	830.500	Y		
7.1.2) Missile Inverter ^(†)		2017	Lockheed Martin / Sunnyvale, CA	Various	SSP - Washington Navy Yard	Nov 2016	Jan 2019	21	846.286	Y		
7.1.2) Missile Inverter ^(†)		2018	Lockheed Martin / Sunnyvale, CA	Various	SSP - Washington Navy Yard	Nov 2017	Jan 2020	20	862.400	Y		
7.1.2) Missile Inverter ^(†)		2019	Lockheed Martin / Sunnyvale, CA	Various	SSP - Washington Navy Yard	Nov 2018	Jan 2021	25	878.760	Y		
7.1.3) Command Sequencer ^(†)		2016	LOCKHEED MARTIN / Sunnyvale, CA	Various	SSP - Washington Navy Yard	Nov 2015	Feb 2018	24	656.833	Y		
7.1.3) Command Sequencer ^(†)		2017	LOCKHEED MARTIN / Sunnyvale, CA	Various	SSP - Washington Navy Yard	Nov 2016	Feb 2019	19	669.316	Y		
7.1.3) Command Sequencer ^(†)		2018	LOCKHEED MARTIN / Sunnyvale, CA	Various	SSP - Washington Navy Yard	Nov 2017	Feb 2020	19	682.000	Y		

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Exhibit P-5a, Procurement History and Planning: PB 2019 Navy								Date: February 2018				
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 01 / 2				P-1 Line Item Number / Title: 1250 / TRIDENT II Mods				Item Number / Title [DODIC]: 1 / TRIDENT II Mods - D5 Life Extension				

Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$ K)	Specs Avail Now?	Date Revision Available	RFP Issue Date
7.1.3) Command Sequencer ^(†)		2019	LOCKHEED MARTIN / Sunnyvale, CA	Various	SSP - Washington Navy Yard	Nov 2018	Feb 2021	19	694.947	Y		
7.1.4) Interlocks ^(†)		2016	LOCKHEED MARTIN / Sunnyvale, CA	Various	SSP - Washington Navy Yard	Nov 2015	Nov 2017	36	1,150.417	Y		
7.1.4) Interlocks ^(†)		2017	LOCKHEED MARTIN / Sunnyvale, CA	Various	SSP - Washington Navy Yard	Nov 2016	Nov 2018	41	1,172.293	Y		
7.1.4) Interlocks ^(†)		2018	LOCKHEED MARTIN / Sunnyvale, CA	Various	SSP - Washington Navy Yard	Nov 2017	Nov 2019	41	1,194.561	Y		
7.1.4) Interlocks ^(†)		2019	LOCKHEED MARTIN / Sunnyvale, CA	Various	SSP - Washington Navy Yard	Nov 2018	Nov 2020	41	1,217.244	Y		

^(†) indicates the presence of a P-21

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Exhibit P-21, Production Schedule: PB 2019 Navy																							Date: February 2018									
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 01 / 2										P-1 Line Item Number / Title: 1250 / TRIDENT II Mods													Item Number / Title [DODIC]: 1 / TRIDENT II Mods - D5 Life Extension									
Cost Elements <i>(Units in Each)</i>							Fiscal Year 2011												Fiscal Year 2012													BALANCE
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2010	BAL DUE AS OF 1 OCT	Calendar Year 2011												Calendar Year 2012													
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
7.1.1) Flight Control Electronic Assembly (FCEA)																																
	7	2016	NAVY	33	0	33																						33				
	7	2017	NAVY	40	0	40																						40				
	7	2018	NAVY	40	0	40																						40				
	7	2019	NAVY	41	0	41																						41				
7.1.2) Missile Inverter																																
	8	2016	NAVY	24	0	24																						24				
	8	2017	NAVY	21	0	21																						21				
	8	2018	NAVY	20	0	20																						20				
	8	2019	NAVY	25	0	25																						25				
7.1.3) Command Sequencer																																
	9	2016	NAVY	24	0	24																						24				
	9	2017	NAVY	19	0	19																						19				
	9	2018	NAVY	19	0	19																						19				
	9	2019	NAVY	19	0	19																						19				
7.1.4) Interlocks																																
	10	2016	NAVY	36	0	36																						36				
	10	2017	NAVY	41	0	41																						41				
	10	2018	NAVY	41	0	41																						41				
	10	2019	NAVY	41	0	41	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	41	

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Exhibit P-21, Production Schedule: PB 2019 Navy																							Date: February 2018								
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 01 / 2										P-1 Line Item Number / Title: 1250 / TRIDENT II Mods										Item Number / Title [DODIC]: 1 / TRIDENT II Mods - D5 Life Extension											
Cost Elements (Units in Each)							Fiscal Year 2013												Fiscal Year 2014												BALANCE
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2012	BAL DUE AS OF 1 OCT	Calendar Year 2013												Calendar Year 2014												
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
7.1.1) Flight Control Electronic Assembly (FCEA)																															
	7	2016	NAVY	33	0	33																							33		
	7	2017	NAVY	40	0	40																							40		
	7	2018	NAVY	40	0	40																							40		
	7	2019	NAVY	41	0	41																							41		
7.1.2) Missile Inverter																															
	8	2016	NAVY	24	0	24																							24		
	8	2017	NAVY	21	0	21																							21		
	8	2018	NAVY	20	0	20																							20		
	8	2019	NAVY	25	0	25																							25		
7.1.3) Command Sequencer																															
	9	2016	NAVY	24	0	24																							24		
	9	2017	NAVY	19	0	19																							19		
	9	2018	NAVY	19	0	19																							19		
	9	2019	NAVY	19	0	19																							19		
7.1.4) Interlocks																															
	10	2016	NAVY	36	0	36																							36		
	10	2017	NAVY	41	0	41																							41		
	10	2018	NAVY	41	0	41																							41		
	10	2019	NAVY	41	0	41	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	41

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Exhibit P-21, Production Schedule: PB 2019 Navy																				Date: February 2018															
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 01 / 2										P-1 Line Item Number / Title: 1250 / TRIDENT II Mods										Item Number / Title [DODIC]: 1 / TRIDENT II Mods - D5 Life Extension															
Cost Elements <i>(Units in Each)</i>							Fiscal Year 2015										Fiscal Year 2016													B A L A N C E					
O C C #	M F R #	FY	SERVICE	PROC QTY	ACCEP T P R I O R T O 1 O C T 2 0 1 4	BAL DUE AS OF 1 OCT	Calendar Year 2015										Calendar Year 2016																		
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G		S E P				
1.1.2) SPALT Kits																																			
	1	2011	NAVY	12	8	4	1	1	1	1																								0	
	1	2012	NAVY	24	0	24	-	-	-	-	2	2	2	2	2	2	2	2	2	2	2														0
	1	2013	NAVY	24	0	24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	2	2	2	2	2	2	2	8				
	1	2014	NAVY	24	0	24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24					
	1	2015	NAVY	22	0	22		A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22					
	1	2016	NAVY	2	0	2														A	-	-	-	-	-	-	-	-	-	-	-	-	2		
4.1.1) Joint Fuze Sustainment																																			
	2	2019	NAVY	30	0	30																												30	
6.1.1) Circuit Card Assemblies (CCA's)																																			
Prior Years Deliveries: 163																																			
	3	2015	NAVY	50	0	50					A	-	-	-	-	-	-	-	4	4	4	4	4	4	4	4	5	5		0					
	3	2016	NAVY	51	0	51														A	-	-	-	-	-	-	-	-	-	-	5	46			
	3	2017	NAVY	49	0	49																												49	
	3	2018	NAVY	55	0	55																												55	
	3	2019	NAVY	62	0	62																												62	
6.1.2) Interferometric Fiber-Optic Gyro (IFOG)																																			
Prior Years Deliveries: 341																																			
	4	2015	NAVY	130	0	130					A	-	-	-	-	-	-	-	-	-	-	-	-	-	10	10	11	11	11	11	11	44			
	4	2016	NAVY	130	0	130														A	-	-	-	-	-	-	-	-	-	-	-	130			
	4	2017	NAVY	130	0	130																												130	
	4	2018	NAVY	185	0	185																												185	
	4	2019	NAVY	200	0	200																												200	
6.1.4) MK6 LE Electronic Piece Parts (LEEP Set)																																			
Prior Years Deliveries: 445																																			
	5	2015	NAVY	109	0	109					A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	9	9	9	9	9	55			
6.1.5) Guidance Accelerometer Sensors (PIGA)																																			
Prior Years Deliveries: 300																																			
	6	2015	NAVY	125	0	125					A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	10	10	10	85			
	6	2016	NAVY	125	0	125														A	-	-	-	-	-	-	-	-	-	-	-	125			
	6	2017	NAVY	125	0	125																												125	
	6	2018	NAVY	180	0	180																												180	
	6	2019	NAVY	200	0	200																												200	
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P					

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Exhibit P-21, Production Schedule: PB 2019 Navy																			Date: February 2018														
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 01 / 2							P-1 Line Item Number / Title: 1250 / TRIDENT II Mods												Item Number / Title [DODIC]: 1 / TRIDENT II Mods - D5 Life Extension														
Cost Elements (Units in Each)							Fiscal Year 2015										Fiscal Year 2016														B A L A N C E		
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2014	BAL DUE AS OF 1 OCT				Calendar Year 2015										Calendar Year 2016													
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P			
7.1.1) Flight Control Electronic Assembly (FCEA)																																	
	7	2016	NAVY		33	0	33											A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	33
	7	2017	NAVY		40	0	40																					40					
	7	2018	NAVY		40	0	40																					40					
	7	2019	NAVY		41	0	41																					41					
7.1.2) Missile Inverter																																	
	8	2016	NAVY		24	0	24											A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24
	8	2017	NAVY		21	0	21																					21					
	8	2018	NAVY		20	0	20																					20					
	8	2019	NAVY		25	0	25																					25					
7.1.3) Command Sequencer																																	
	9	2016	NAVY		24	0	24											A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24
	9	2017	NAVY		19	0	19																					19					
	9	2018	NAVY		19	0	19																					19					
	9	2019	NAVY		19	0	19																					19					
7.1.4) Interlocks																																	
	10	2016	NAVY		36	0	36											A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	36
	10	2017	NAVY		41	0	41																					41					
	10	2018	NAVY		41	0	41																					41					
	10	2019	NAVY		41	0	41	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P		

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Exhibit P-21, Production Schedule: PB 2019 Navy																				Date: February 2018															
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 01 / 2										P-1 Line Item Number / Title: 1250 / TRIDENT II Mods										Item Number / Title [DODIC]: 1 / TRIDENT II Mods - D5 Life Extension															
Cost Elements <i>(Units in Each)</i>							Fiscal Year 2017										Fiscal Year 2018													B A L A N C E					
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEP T P R I O R T O 1 O C T 2016	BAL DUE AS OF 1 OCT	Calendar Year 2017										Calendar Year 2018																		
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G		S E P				
1.1.2) SPALT Kits																																			
	1	2011	NAVY		12	12	0																											0	
	1	2012	NAVY		24	24	0																											0	
	1	2013	NAVY		24	16	8	2	2	2	2																				0				
	1	2014	NAVY		24	0	24	-	-	-	-	2	2	2	2	2	2	2	2	2	2													0	
	1	2015	NAVY		22	0	22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	2	2	2	2	2	2	2	6				
	1	2016	NAVY		2	0	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2					
4.1.1) Joint Fuze Sustainment																																			
	2	2019	NAVY		30	0	30																											30	
6.1.1) Circuit Card Assemblies (CCA's)																																			
Prior Years Deliveries: 163																																			
	3	2015	NAVY		50	50	0																											0	
	3	2016	NAVY		51	5	46	5	5	4	4	4	4	4	4	4	4																	0	
	3	2017	NAVY		49	0	49	A -				-	-	-	-	-	-	-	4	4	4	4	4	4	4	4	4	4	5	0					
	3	2018	NAVY		55	0	55																			A -	-	-	-	-	-	-	-	5	50
	3	2019	NAVY		62	0	62																											62	
6.1.2) Interferometric Fiber-Optic Gyro (IFOG)																																			
Prior Years Deliveries: 341																																			
	4	2015	NAVY		130	86	44	11	11	11	11																						0		
	4	2016	NAVY		130	0	130	-	-	-	-	10	10	11	11	11	11	11	11	11	11													0	
	4	2017	NAVY		130	0	130	A -				-	-	-	-	-	-	-	-	-	-	10	10	11	11	11	11	11	11	44					
	4	2018	NAVY		185	0	185																			A -	-	-	-	-	-	-	-	185	
	4	2019	NAVY		200	0	200																											200	
6.1.4) MK6 LE Electronic Piece Parts (LEEP Set)																																			
Prior Years Deliveries: 445																																			
	5	2015	NAVY		109	54	55	9	9	9	9	9	10																					0	
6.1.5) Guidance Accelerometer Sensors (PIGA)																																			
Prior Years Deliveries: 300																																			
	6	2015	NAVY		125	40	85	10	10	10	11	11	11	11																				0	
	6	2016	NAVY		125	0	125	-	-	-	-	-	-	-	10	10	10	10	10	10	10	11	11	11	11	11								0	
	6	2017	NAVY		125	0	125	A -				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	10	10	10	85				
	6	2018	NAVY		180	0	180																			A -	-	-	-	-	-	-	-	180	
	6	2019	NAVY		200	0	200																											200	
								O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P				

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Exhibit P-21, Production Schedule: PB 2019 Navy																				Date: February 2018																
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 01 / 2										P-1 Line Item Number / Title: 1250 / TRIDENT II Mods										Item Number / Title [DODIC]: 1 / TRIDENT II Mods - D5 Life Extension																
Cost Elements (Units in Each)						Fiscal Year 2017										Fiscal Year 2018														B A L A N C E						
O C C #	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2016	BAL DUE AS OF 1 OCT	Calendar Year 2017																Calendar Year 2018													
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G		S E P					
7.1.1) Flight Control Electronic Assembly (FCEA)																																				
	7	2016	NAVY		33	0	33	-	-	-	-	-	-	-	-	-	-	-	-	2	2	2	3	3	3	3	3	3	3	3	3					
	7	2017	NAVY		40	0	40		A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40					
	7	2018	NAVY		40	0	40													A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40
	7	2019	NAVY		41	0	41																							41						
7.1.2) Missile Inverter																																				
	8	2016	NAVY		24	0	24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	2	2	2	2	2	2	2	2	6				
	8	2017	NAVY		21	0	21		A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21					
	8	2018	NAVY		20	0	20													A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	
	8	2019	NAVY		25	0	25																							25						
7.1.3) Command Sequencer																																				
	9	2016	NAVY		24	0	24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	2	2	2	2	2	2	2	2	8				
	9	2017	NAVY		19	0	19		A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19					
	9	2018	NAVY		19	0	19													A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19	
	9	2019	NAVY		19	0	19																							19						
7.1.4) Interlocks																																				
	10	2016	NAVY		36	0	36	-	-	-	-	-	-	-	-	-	-	-	-	3	3	3	3	3	3	3	3	3	3	3	3	3				
	10	2017	NAVY		41	0	41		A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	41					
	10	2018	NAVY		41	0	41													A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	41	
	10	2019	NAVY		41	0	41																							41						
								O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P					

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Exhibit P-21, Production Schedule: PB 2019 Navy																				Date: February 2018												
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 01 / 2										P-1 Line Item Number / Title: 1250 / TRIDENT II Mods										Item Number / Title [DODIC]: 1 / TRIDENT II Mods - D5 Life Extension												
Cost Elements <i>(Units in Each)</i>							Fiscal Year 2019										Fiscal Year 2020													B A L A N C E		
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEP T P R I O R T O 1 O C T 2 0 1 8	BAL DUE AS OF 1 OCT	Calendar Year 2019										Calendar Year 2020															
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G		S E P	
1.1.2) SPALT Kits																																
	1	2011	NAVY		12	12	0																									0
	1	2012	NAVY		24	24	0																									0
	1	2013	NAVY		24	24	0																									0
	1	2014	NAVY		24	24	0																									0
	1	2015	NAVY		22	16	6	2	2	1	1																				0	
	1	2016	NAVY		2	0	2	-	-	-	-	1	1																		0	
4.1.1) Joint Fuze Sustainment																																
	2	2019	NAVY		30	0	30	A -	-	-	-	-	-	-	-	-	-	-	-	2	2	2	2	2	2	3	3	3	3	3	3	
6.1.1) Circuit Card Assemblies (CCA's)																																
Prior Years Deliveries: 163																																
	3	2015	NAVY		50	50	0																									0
	3	2016	NAVY		51	51	0																									0
	3	2017	NAVY		49	49	0																									0
	3	2018	NAVY		55	5	50	5	5	5	5	4	4	4	4	4																0
	3	2019	NAVY		62	0	62	A -					-	-	-	-	-	-	5	5	5	5	5	5	5	5	5	5	6	6	0	
6.1.2) Interferometric Fiber-Optic Gyro (IFOG)																																
Prior Years Deliveries: 341																																
	4	2015	NAVY		130	130	0																									0
	4	2016	NAVY		130	130	0																									0
	4	2017	NAVY		130	86	44	11	11	11	11																				0	
	4	2018	NAVY		185	0	185	-	-	-	-	12	13	14	15	16	16	16	16	16	17	17	17								0	
	4	2019	NAVY		200	0	200	A -					-	-	-	-	-	-	-	-	-	-	17	17	17	17	17	17	17	17	64	
6.1.4) MK6 LE Electronic Piece Parts (LEEP Set)																																
Prior Years Deliveries: 445																																
	5	2015	NAVY		109	109	0																									0
6.1.5) Guidance Accelerometer Sensors (PIGA)																																
Prior Years Deliveries: 300																																
	6	2015	NAVY		125	125	0																									0
	6	2016	NAVY		125	125	0																									0
	6	2017	NAVY		125	40	85	10	10	10	11	11	11	11																	0	
	6	2018	NAVY		180	0	180	-	-	-	-	-	-	-	15	15	15	15	15	15	15	15	15	15	15	15					0	
	6	2019	NAVY		200	0	200	A -					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	16	16	16	136
								O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	

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Exhibit P-21, Production Schedule: PB 2019 Navy																			Date: February 2018														
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 01 / 2										P-1 Line Item Number / Title: 1250 / TRIDENT II Mods										Item Number / Title [DODIC]: 1 / TRIDENT II Mods - D5 Life Extension													
Cost Elements (Units in Each)							Fiscal Year 2019										Fiscal Year 2020														BALANCE		
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2018	BAL DUE AS OF 1 OCT	Calendar Year 2019										Calendar Year 2020																
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP			
7.1.1) Flight Control Electronic Assembly (FCEA)																																	
	7	2016	NAVY	33	30	3	3																									0	
	7	2017	NAVY	40	0	40	-	3	3	3	3	3	3	3	4	4	4	4															0
	7	2018	NAVY	40	0	40	-	-	-	-	-	-	-	-	-	-	-	-	4	4	4	4	3	3	3	3	3	3	3	3	3		
	7	2019	NAVY	41	0	41		A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	41		
7.1.2) Missile Inverter																																	
	8	2016	NAVY	24	18	6	2	2	2																							0	
	8	2017	NAVY	21	0	21	-	-	-	2	2	2	2	2	2	2	2	1	1	1												0	
	8	2018	NAVY	20	0	20	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	2	2	2	2	2	2	2	6		
	8	2019	NAVY	25	0	25		A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25		
7.1.3) Command Sequencer																																	
	9	2016	NAVY	24	16	8	2	2	2	2																						0	
	9	2017	NAVY	19	0	19	-	-	-	-	2	2	2	2	2	2	1	1	1	1	1											0	
	9	2018	NAVY	19	0	19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	2	2	2	2	8		
	9	2019	NAVY	19	0	19		A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19		
7.1.4) Interlocks																																	
	10	2016	NAVY	36	33	3	3																									0	
	10	2017	NAVY	41	0	41	-	3	3	3	3	3	3	4	4	4	4	4															0
	10	2018	NAVY	41	0	41	-	-	-	-	-	-	-	-	-	-	-	-	4	4	4	4	4	3	3	3	3	3	3	3	3		
	10	2019	NAVY	41	0	41		A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	41		
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP			

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Exhibit P-21, Production Schedule: PB 2019 Navy																			Date: February 2018																			
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Cost Elements (Units in Each)							Fiscal Year 2021												Fiscal Year 2022															BALANCE				
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2020	BAL DUE AS OF 1 OCT				Calendar Year 2021												Calendar Year 2022																
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP								
7.1.1) Flight Control Electronic Assembly (FCEA)																																						
	7	2016	NAVY	33	33	0																											0					
	7	2017	NAVY	40	40	0																											0					
	7	2018	NAVY	40	37	3	3																										0					
	7	2019	NAVY	41	0	41	-	3	3	3	3	3	3	3	4	4	4	4	4															0				
7.1.2) Missile Inverter																																						
	8	2016	NAVY	24	24	0																											0					
	8	2017	NAVY	21	21	0																											0					
	8	2018	NAVY	20	14	6	2	2	2																								0					
	8	2019	NAVY	25	0	25	-	-	-	2	2	2	2	2	2	2	2	2	2	3													0					
7.1.3) Command Sequencer																																						
	9	2016	NAVY	24	24	0																											0					
	9	2017	NAVY	19	19	0																											0					
	9	2018	NAVY	19	11	8	2	2	2	2																						0						
	9	2019	NAVY	19	0	19	-	-	-	-	2	2	2	2	2	2	2	1	1	1	1	1											0					
7.1.4) Interlocks																																						
	10	2016	NAVY	36	36	0																											0					
	10	2017	NAVY	41	41	0																											0					
	10	2018	NAVY	41	38	3	3																										0					
	10	2019	NAVY	41	0	41	-	3	3	3	3	3	3	3	4	4	4	4	4															0				
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP								

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Exhibit P-21, Production Schedule: PB 2019 Navy								Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 01 / 2				P-1 Line Item Number / Title: 1250 / TRIDENT II Mods					Item Number / Title [DODIC]: 1 / TRIDENT II Mods - D5 Life Extension		

MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Year)			Procurement Leadtime (Months)							
		MSR For 2019	1-8-5 For 2019	MAX For 2019	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	Lockheed Martin - Sunnyvale, CA	12	12	24	9	1	37	38	9	1	37	38
2	Department of Energy (DOE) - Kansas City	30	150	240	9	1	12	13	9	1	12	13
3	Charles Stark Draper Laboratory, INC - Cambridge MA	32	50	83	9	4	7	11	9	4	7	11
4	Charles Stark Draper Laboratory, INC - Cambridge MA	120	144	336	9	4	12	16	9	4	12	16
5	Charles Stark Draper Laboratory, INC - Cambridge MA	15	115	130	9	4	12	16	9	4	12	16
6	Charles Stark Draper Laboratory, INC - Cambridge MA	96	108	288	9	4	16	20	9	4	16	20
7	Lockheed Martin - Sunnyvale, CA	12	36	72	9	1	24	25	9	1	24	25
8	Lockheed Martin - Sunnyvale, CA	12	36	48	9	1	26	27	9	1	26	27
9	LOCKHEED MARTIN - Sunnyvale, CA	12	36	72	9	1	27	28	9	1	27	28
10	LOCKHEED MARTIN - Sunnyvale, CA	12	36	72	9	1	24	25	9	1	24	25

"A" in the Delivery Schedule indicates the Contract Award Date.

Note: Due to space limitations, quantities in the Exhibit P-21 delivery calendar are truncated and rounded based on the maximum quantity in the calendar as follows. If the maximum quantity is less than or equal to than 9,999, all quantities are shown as each. If the maximum quantity is between 10,000 and 999,999 all quantities are shown in thousands. If the maximum quantity is between 1,000,000 and 999,999,999 all quantities are shown in millions (rounded to the nearest thousand).If the maximum quantity is equal or greater than 1,000,000,000 all quantities are shown in billions (rounded to the nearest million).

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Exhibit P-5, Cost Analysis: PB 2019 Navy												Date: February 2018						
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 01 / 2						P-1 Line Item Number / Title: 1250 / TRIDENT II Mods						Item Number / Title [DODIC]: 2 / TRIDENT II Mods -Operating and Support Costs						
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:								
Resource Summary				Prior Years		FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total				
Procurement Quantity <i>(Units in Each)</i>				-		-		-		-		-		-				
Gross/Weapon System Cost <i>(\$ in Millions)</i>				4,200.752		485.040		496.829		502.210		0.000		502.210				
Less PY Advance Procurement <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Net Procurement (P-1) <i>(\$ in Millions)</i>				4,200.752		485.040		496.829		502.210		0.000		502.210				
Plus CY Advance Procurement <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Total Obligation Authority <i>(\$ in Millions)</i>				4,200.752		485.040		496.829		502.210		0.000		502.210				
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)																		
Initial Spares <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Gross/Weapon System Unit Cost <i>(\$ in Thousands)</i>				-		-		-		-		-		-				
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Support - Support Cost																		
1.1) PIGA	-	-	99.452	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
1.2) SWFLANT Production Support	-	-	56.450	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
1.3) Warhead Components	-	-	1,337.909	-	-	79.443	-	-	81.352	-	-	87.330	-	-	0.000	-	-	87.330
1.4) Shape Stable Nose Tip (SSNT)	-	-	0.000	-	-	0.000	-	-	0.000	-	-	8.800	-	-	0.000	-	-	8.800
1.5) Tooling, Test/ Support Equipment	-	-	371.325	-	-	43.770	-	-	48.678	-	-	47.972	-	-	0.000	-	-	47.972
1.6) Containers	-	-	3.433	-	-	0.142	-	-	0.100	-	-	0.100	-	-	0.000	-	-	0.100
1.7) System Integration & Planning	-	-	166.775	-	-	15.487	-	-	16.022	-	-	16.214	-	-	0.000	-	-	16.214
1.8) Supportability Mods/ SPALT Insertion	-	-	421.886	-	-	41.743	-	-	42.536	-	-	35.881	-	-	0.000	-	-	35.881
1.9) Guidance Parts Procurement	-	-	57.123	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
1.10) SWFPAC Production Support	-	-	48.050	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
1.11) EOP Missile and Guidance Costs	-	-	27.849	-	-	3.955	-	-	4.030	-	-	3.125	-	-	0.000	-	-	3.125
Subtotal: Support - Support Cost	-	-	2,590.252	-	-	184.540	-	-	192.718	-	-	199.422	-	-	0.000	-	-	199.422
Support - Solid Rocket Motors and PBCS Cost																		

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Exhibit P-5, Cost Analysis: PB 2019 Navy										Date: February 2018							
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 01 / 2						P-1 Line Item Number / Title: 1250 / TRIDENT II Mods						Item Number / Title [DODIC]: 2 / TRIDENT II Mods -Operating and Support Costs					

ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:							
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Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
2.1) Solid Rocket Motors ^(t)	16,123.000	64	1,031.872	16,677.750	12	200.133	16,994.571	12	203.935	17,317.500	12	207.810	-	-	0.000	17,317.500	12	207.810
2.2) Post Boost Control System (PBCS) ^(t)	1,975.969	64	126.462	2,012.583	12	24.151	2,050.857	14	28.712	2,089.786	14	29.257	-	-	0.000	2,089.786	14	29.257
2.3) HMX	-	-	119.752	-	-	11.064	-	-	11.274	-	-	11.488	-	-	0.000	-	-	11.488
2.4) Other (Tooling, Storage, PET, Stat Fire etc.)	-	-	262.014	-	-	51.152	-	-	52.890	-	-	53.233	-	-	0.000	-	-	53.233
<i>Subtotal: Support - Solid Rocket Motors and PBCS Cost</i>	-	-	1,540.100	-	-	286.500	-	-	296.811	-	-	301.788	-	-	0.000	-	-	301.788
Support - New Start Cost																		
3.1) Aerospike Protective Cap	-	-	0.100	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
3.2) 3rd Stage Motor Support	-	-	0.000	-	-	3.200	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
3.3) Bare Missile Bridge	-	-	14.000	-	-	3.400	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
3.4) 1st and 2nd Stage Motor Chocks	-	-	21.500	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
3.5) Motor Chock Storage	-	-	11.100	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
3.6) 3rd Stage Dollies	-	-	2.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
3.7) Additional Movement/Transport/Storage/Equip	-	-	21.700	-	-	7.400	-	-	7.300	-	-	1.000	-	-	0.000	-	-	1.000
<i>Subtotal: Support - New Start Cost</i>	-	-	70.400	-	-	14.000	-	-	7.300	-	-	1.000	-	-	0.000	-	-	1.000
Gross/Weapon System Cost	-	-	4,200.752	-	-	485.040	-	-	496.829	-	-	502.210	-	-	0.000	-	-	502.210

^(t) indicates the presence of a P-5a

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Exhibit P-5a, Procurement History and Planning: PB 2019 Navy									Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 01 / 2				P-1 Line Item Number / Title: 1250 / TRIDENT II Mods					Item Number / Title [DODIC]: 2 / TRIDENT II Mods -Operating and Support Costs			
Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$ K)	Specs Avail Now?	Date Revision Available	RFP Issue Date
2.1) Solid Rocket Motor's ^(†)		2012	Lockheed Martin / Sunnyvale, CA	Various	SSP - Washington Navy Yard	Dec 2011	Feb 2015	12	0.000	Y		
2.1) Solid Rocket Motor's ^(†)		2013	Lockheed Martin / Sunnyvale, CA	Various	SSP - Washington Navy Yard	Dec 2012	Feb 2016	12	0.000	Y		
2.1) Solid Rocket Motor's ^(†)		2014	Lockheed Martin / Sunnyvale, CA	Various	SSP - Washington Navy Yard	Nov 2013	Feb 2017	12	0.000	Y		
2.1) Solid Rocket Motor's ^(†)		2015	Lockheed Martin / Sunnyvale, CA	Various	SSP - Washington Navy Yard	Nov 2014	Feb 2018	12	16,066.750	Y		
2.1) Solid Rocket Motor's ^(†)		2016	Lockheed Martin / Sunnyvale, CA	Various	SSP - Washington Navy Yard	Nov 2015	Feb 2019	12	16,366.750	Y		
2.1) Solid Rocket Motor's ^(†)		2017	Lockheed Martin / Sunnyvale, CA	Various	SSP - Washington Navy Yard	Nov 2016	Feb 2020	12	16,677.750	Y		
2.1) Solid Rocket Motor's ^(†)		2018	Lockheed Martin / Sunnyvale, CA	Various	SSP - Washington Navy Yard	Nov 2017	Feb 2021	12	16,994.571	Y		
2.1) Solid Rocket Motor's ^(†)		2019	Lockheed Martin / Sunnyvale, CA	Various	SSP - Washington Navy Yard	Nov 2018	Feb 2022	12	17,317.500	Y		
2.2) Post Boost Control System (PBCS) ^(†)		2015	Lockheed Martin / Sunnyvale, CA	Various	SSP - Washington Navy Yard	Nov 2014	Feb 2018	12	1,976.167	Y		
2.2) Post Boost Control System (PBCS) ^(†)		2016	Lockheed Martin / Sunnyvale, CA	Various	SSP - Washington Navy Yard	Nov 2015	Feb 2019	12	1,975.083	Y		
2.2) Post Boost Control System (PBCS) ^(†)		2017	Lockheed Martin / Sunnyvale, CA	Various	SSP - Washington Navy Yard	Nov 2016	Feb 2020	12	2,012.583	Y		
2.2) Post Boost Control System (PBCS) ^(†)		2018	Lockheed Martin / Sunnyvale, CA	Various	SSP - Washington Navy Yard	Nov 2017	Feb 2021	14	2,050.857	Y		
2.2) Post Boost Control System (PBCS) ^(†)		2019	Lockheed Martin / Sunnyvale, CA	Various	SSP - Washington Navy Yard	Nov 2018	Feb 2022	14	2,089.786	Y		

^(†) indicates the presence of a P-21

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Exhibit P-21, Production Schedule: PB 2019 Navy																				Date: February 2018														
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 01 / 2										P-1 Line Item Number / Title: 1250 / TRIDENT II Mods										Item Number / Title [DODIC]: 2 / TRIDENT II Mods -Operating and Support Costs														
Cost Elements (Units in Each)							Fiscal Year 2012										Fiscal Year 2013														B A L A N C E			
O C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2011	BAL DUE AS OF 1 OCT	Calendar Year 2012										Calendar Year 2013																	
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P				
2.1) Solid Rocket Motor's																																		
Prior Years Deliveries: 4																																		
	1	2012	NAVY	12	0	12				A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	
	1	2013	NAVY	12	0	12															A -	-	-	-	-	-	-	-	-	-	-	-	12	
	1	2014	NAVY	12	0	12																											12	
	1	2015	NAVY	12	0	12																											12	
	1	2016	NAVY	12	0	12																											12	
	1	2017	NAVY	12	0	12																											12	
	1	2018	NAVY	12	0	12																											12	
	1	2019	NAVY	12	0	12																											12	
2.2) Post Boost Control System (PBCS)																																		
Prior Years Deliveries: 40																																		
	2	2015	NAVY	12	0	12																											12	
	2	2016	NAVY	12	0	12																											12	
	2	2017	NAVY	12	0	12																											12	
	2	2018	NAVY	14	0	14																											14	
	2	2019	NAVY	14	0	14																											14	
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P				

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Exhibit P-21, Production Schedule: PB 2019 Navy																								Date: February 2018											
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 01 / 2										P-1 Line Item Number / Title: 1250 / TRIDENT II Mods														Item Number / Title [DODIC]: 2 / TRIDENT II Mods -Operating and Support Costs											
Cost Elements (Units in Each)							Fiscal Year 2014														Fiscal Year 2015														BALANCE
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2013	BAL DUE AS OF 1 OCT	Calendar Year 2014														Calendar Year 2015														
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP					
2.1) Solid Rocket Motor's																																			
Prior Years Deliveries: 4																																			
	1	2012	NAVY	12	0	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	4				
	1	2013	NAVY	12	0	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12				
	1	2014	NAVY	12	0	12		A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12				
	1	2015	NAVY	12	0	12													A	-	-	-	-	-	-	-	-	-	-	-	12				
	1	2016	NAVY	12	0	12																									12				
	1	2017	NAVY	12	0	12																									12				
	1	2018	NAVY	12	0	12																									12				
	1	2019	NAVY	12	0	12																									12				
2.2) Post Boost Control System (PBCS)																																			
Prior Years Deliveries: 40																																			
	2	2015	NAVY	12	0	12													A	-	-	-	-	-	-	-	-	-	-	-	12				
	2	2016	NAVY	12	0	12																									12				
	2	2017	NAVY	12	0	12																									12				
	2	2018	NAVY	14	0	14																									14				
	2	2019	NAVY	14	0	14																									14				
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP					

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Exhibit P-21, Production Schedule: PB 2019 Navy																				Date: February 2018																
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 01 / 2										P-1 Line Item Number / Title: 1250 / TRIDENT II Mods										Item Number / Title [DODIC]: 2 / TRIDENT II Mods -Operating and Support Costs																
Cost Elements (Units in Each)							Fiscal Year 2016										Fiscal Year 2017													BALANCE						
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2015	BAL DUE AS OF 1 OCT	Calendar Year 2016																Calendar Year 2017													
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG		SEP					
2.1) Solid Rocket Motor's																																				
Prior Years Deliveries: 4																																				
	1	2012	NAVY		12	8	4	1	1	1	1																					0				
	1	2013	NAVY		12	0	12	-	-	-	-	1	1	1	1	1	1	1	1	1	1	1										0				
	1	2014	NAVY		12	0	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	1	1	4				
	1	2015	NAVY		12	0	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12				
	1	2016	NAVY		12	0	12		A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12				
	1	2017	NAVY		12	0	12												A	-	-	-	-	-	-	-	-	-	-	-	-	12				
	1	2018	NAVY		12	0	12																									12				
	1	2019	NAVY		12	0	12																									12				
2.2) Post Boost Control System (PBCS)																																				
Prior Years Deliveries: 40																																				
	2	2015	NAVY		12	0	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12				
	2	2016	NAVY		12	0	12		A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12				
	2	2017	NAVY		12	0	12												A	-	-	-	-	-	-	-	-	-	-	-	-	12				
	2	2018	NAVY		14	0	14																									14				
	2	2019	NAVY		14	0	14																									14				
								OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP					

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Exhibit P-21, Production Schedule: PB 2019 Navy																				Date: February 2018																	
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 01 / 2										P-1 Line Item Number / Title: 1250 / TRIDENT II Mods										Item Number / Title [DODIC]: 2 / TRIDENT II Mods -Operating and Support Costs																	
Cost Elements (Units in Each)							Fiscal Year 2018										Fiscal Year 2019														BALANCE						
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2017	BAL DUE AS OF 1 OCT	Calendar Year 2018										Calendar Year 2019																				
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP							
2.1) Solid Rocket Motor's																																					
Prior Years Deliveries: 4																																					
	1	2012	NAVY		12	0																													0		
	1	2013	NAVY		12	0																													0		
	1	2014	NAVY		12	8	4	1	1	1	1																					0					
	1	2015	NAVY		12	0	12	-	-	-	-	1	1	1	1	1	1	1	1	1	1	1										0					
	1	2016	NAVY		12	0	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	1	1	4					
	1	2017	NAVY		12	0	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12					
	1	2018	NAVY		12	0	12		A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12					
	1	2019	NAVY		12	0	12														A -	-	-	-	-	-	-	-	-	-	-	-	-	-	12		
2.2) Post Boost Control System (PBCS)																																					
Prior Years Deliveries: 40																																					
	2	2015	NAVY		12	0	12	-	-	-	-	1	1	1	1	1	1	1	1	1	1															0	
	2	2016	NAVY		12	0	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	1	1	1	4				
	2	2017	NAVY		12	0	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12				
	2	2018	NAVY		14	0	14		A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14				
	2	2019	NAVY		14	0	14														A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14
								OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP						

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Exhibit P-21, Production Schedule: PB 2019 Navy																			Date: February 2018														
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 01 / 2										P-1 Line Item Number / Title: 1250 / TRIDENT II Mods										Item Number / Title [DODIC]: 2 / TRIDENT II Mods -Operating and Support Costs													
Cost Elements (Units in Each)							Fiscal Year 2020										Fiscal Year 2021										BALANCE						
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2019	BAL DUE AS OF 1 OCT	Calendar Year 2020										Calendar Year 2021																
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY		JUN	JUL	AUG	SEP		
2.1) Solid Rocket Motor's																																	
Prior Years Deliveries: 4																																	
	1	2012	NAVY		12	12	0																										0
	1	2013	NAVY		12	12	0																										0
	1	2014	NAVY		12	12	0																										0
	1	2015	NAVY		12	12	0																										0
	1	2016	NAVY		12	8	4	1	1	1	1																				0		
	1	2017	NAVY		12	0	12	-	-	-	-	1	1	1	1	1	1	1	1	1	1	1											0
	1	2018	NAVY		12	0	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	4		
	1	2019	NAVY		12	0	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12		
2.2) Post Boost Control System (PBCS)																																	
Prior Years Deliveries: 40																																	
	2	2015	NAVY		12	12	0																										0
	2	2016	NAVY		12	8	4	1	1	1	1																					0	
	2	2017	NAVY		12	0	12	-	-	-	-	1	1	1	1	1	1	1	1	1	1	1											0
	2	2018	NAVY		14	0	14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	6		
	2	2019	NAVY		14	0	14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14		
								OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		

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Exhibit P-21, Production Schedule: PB 2019 Navy														Date: February 2018													
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 01 / 2							P-1 Line Item Number / Title: 1250 / TRIDENT II Mods														Item Number / Title [DODIC]: 2 / TRIDENT II Mods -Operating and Support Costs						

Cost Elements (Units in Each)							Fiscal Year 2022														Fiscal Year 2023														B A L A N C E			
O C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2021	BAL DUE AS OF 1 OCT				Calendar Year 2022														Calendar Year 2023														
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P								
2.1) Solid Rocket Motor's																																						
Prior Years Deliveries: 4																																						
	1	2012	NAVY	12	12	0																											0					
	1	2013	NAVY	12	12	0																											0					
	1	2014	NAVY	12	12	0																											0					
	1	2015	NAVY	12	12	0																											0					
	1	2016	NAVY	12	12	0																											0					
	1	2017	NAVY	12	12	0																											0					
	1	2018	NAVY	12	8	4	1	1	1	1																				0								
	1	2019	NAVY	12	0	12	-	-	-	-	1	1	1	1	1	1	1	1	1	1	1											0						
2.2) Post Boost Control System (PBCS)																																						
Prior Years Deliveries: 40																																						
	2	2015	NAVY	12	12	0																											0					
	2	2016	NAVY	12	12	0																											0					
	2	2017	NAVY	12	12	0																											0					
	2	2018	NAVY	14	8	6	1	1	2	2																						0						
	2	2019	NAVY	14	0	14	-	-	-	-	2	2	1	1	1	1	1	1	1	1	1											0						
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P								

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Exhibit P-21, Production Schedule: PB 2019 Navy								Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 01 / 2				P-1 Line Item Number / Title: 1250 / TRIDENT II Mods				Item Number / Title [DODIC]: 2 / TRIDENT II Mods -Operating and Support Costs			

MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Year)			Procurement Leadtime (Months)							
		MSR For 2019	1-8-5 For 2019	MAX For 2019	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	Lockheed Martin - Sunnyvale, CA	12	14	18	9	1	37	38	9	1	37	38
2	Lockheed Martin - Sunnyvale, CA	12	14	18	9	1	37	38	9	1	37	38

"A" in the Delivery Schedule indicates the Contract Award Date.

Note: Due to space limitations, quantities in the Exhibit P-21 delivery calendar are truncated and rounded based on the maximum quantity in the calendar as follows. If the maximum quantity is less than or equal to than 9,999, all quantities are shown as each. If the maximum quantity is between 10,000 and 999,999 all quantities are shown in thousands. If the maximum quantity is between 1,000,000 and 999,999,999 all quantities are shown in millions (rounded to the nearest thousand).If the maximum quantity is equal or greater than 1,000,000,000 all quantities are shown in billions (rounded to the nearest million).

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy										Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 01: Ballistic Missiles / BSA 3: Support Equipment & Facilities							P-1 Line Item Number / Title: 1350 / Missile Industrial Facilities					
ID Code (A=Service Ready, B=Not Service Ready): A				Program Elements for Code B Items: N/A				Other Related Program Elements: N/A				
Line Item MDAP/MAIS Code: N/A												
Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	25.220	6.776	7.086	6.998	0.000	6.998	7.142	7.282	7.426	7.575	Continuing	Continuing
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	25.220	6.776	7.086	6.998	0.000	6.998	7.142	7.282	7.426	7.575	Continuing	Continuing
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	25.220	6.776	7.086	6.998	0.000	6.998	7.142	7.282	7.426	7.575	Continuing	Continuing
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
 Description: Funding for Missile Industrial Facilities provides for capital maintenance projects at Navy-owned Naval Industrial Reserve Ordnance Plants (NIROPS) at Sunnyvale and Santa Cruz, California, and Bacchus, Utah, in support of the Fleet Ballistic Missile program. The Bacchus, Utah, ATK facility alone consists of 583 acres, over 130 buildings and over 13 miles of road. The Sunnyvale, California facility consists of 49 acres of land and 10 buildings and the Santa Cruz, California facility consists of 271 acres of land and 29 buildings.												

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy								Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 01: Ballistic Missiles / BSA 3: Support Equipment & Facilities						P-1 Line Item Number / Title: 1350 / Missile Industrial Facilities				
ID Code (A=Service Ready, B=Not Service Ready): A				Program Elements for Code B Items: N/A			Other Related Program Elements: N/A			
Line Item MDAP/MAIS Code: N/A										
Exhibits Schedule					Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	1 / Missile Industrial Facilities				- / 25.220	- / 6.776	- / 7.086	- / 6.998	- / 0.000	- / 6.998
P-40	Total Gross/Weapon System Cost				- / 25.220	- / 6.776	- / 7.086	- / 6.998	- / 0.000	- / 6.998
<small>*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.</small>										
<small>Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.</small>										
<p>Justification:</p> <p>As NIROP buildings are vital to D5 motor production, they must be maintained in an operational state until the D5 missile retirement. Most buildings are already over 50 years old and have exceeded their useful life. Safety related maintenance projects were originally deferred when the Department did not have a program of record to remotor the D5 missile to support its extended deployment. Subsequently, the Department approved and funded the re-motoring of D5 missiles. Additional repairs and upgrades are necessary to ensure NIROP buildings are properly maintained because of this significant extension of motor procurement. Incidents that stress the need for additional funds include: a leak in the fire branch line which left a few energetic buildings without fire protection, failure of an exhaust fan which halted operations until the unit was replaced, failure of a pneumatic valve which halted HMX production, and a failure in the liquid nitrogen pump system which shut down hardware testing. Projects planned in FY 2019 include modifications and rehabilitation of civil works, non-severable equipment, and real property. Among these projects are floor replacements, upgrades and replacements to boilers and electrical subsystems, fencing replacements (focusing on Motor transportation routes), water supply replacements and general facilities maintenance.</p>										

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Exhibit P-5, Cost Analysis: PB 2019 Navy													Date: February 2018								
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 01 / 3							P-1 Line Item Number / Title: 1350 / Missile Industrial Facilities						Item Number / Title [DODIC]: 1 / Missile Industrial Facilities								
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:											
Resource Summary				Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
Procurement Quantity <i>(Units in Each)</i>				-			-			-			-			-			-		
Gross/Weapon System Cost <i>(\$ in Millions)</i>				25.220			6.776			7.086			6.998			0.000			6.998		
Less PY Advance Procurement <i>(\$ in Millions)</i>				-			-			-			-			-			-		
Net Procurement (P-1) <i>(\$ in Millions)</i>				25.220			6.776			7.086			6.998			0.000			6.998		
Plus CY Advance Procurement <i>(\$ in Millions)</i>				-			-			-			-			-			-		
Total Obligation Authority <i>(\$ in Millions)</i>				25.220			6.776			7.086			6.998			0.000			6.998		
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)																					
Initial Spares <i>(\$ in Millions)</i>				-			-			-			-			-			-		
Gross/Weapon System Unit Cost <i>(\$ in Dollars)</i>				-			-			-			-			-			-		
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																					
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total					
	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)			
Hardware Cost																					
Recurring Cost																					
1.1.1) Capital Maintenance	-	-	25.220	-	-	6.776	-	-	7.086	-	-	6.998	-	-	-	-	-	6.998			
Subtotal: Recurring Cost	-	-	25.220	-	-	6.776	-	-	7.086	-	-	6.998	-	-	-	-	-	6.998			
Subtotal: Hardware Cost	-	-	25.220	-	-	6.776	-	-	7.086	-	-	6.998	-	-	-	-	-	6.998			
Gross/Weapon System Cost	-	-	25.220	-	-	6.776	-	-	7.086	-	-	6.998	-	-	0.000	-	-	6.998			

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy										Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 02: Other Missiles / BSA 1: Strategic Missiles							P-1 Line Item Number / Title: 2101 / Tomahawk					
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A				Other Related Program Elements: N/A					
Line Item MDAP/MAIS Code: 289												
Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	8,333	196	100	-	-	-	-	-	-	-	-	8,629
Gross/Weapon System Cost (<i>\$ in Millions</i>)	13,154.620	297.505	234.461	98.570	0.000	98.570	98.115	130.981	210.305	265.712	1.984	14,492.253
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	13,154.620	297.505	234.461	98.570	0.000	98.570	98.115	130.981	210.305	265.712	1.984	14,492.253
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	13,154.620	297.505	234.461	98.570	0.000	98.570	98.115	130.981	210.305	265.712	1.984	14,492.253
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Thousands</i>)	1,189.244	1,141.403	1,533.440	-	-	-	-	-	-	-	-	1,192.146
Gross/Weapon System Unit Cost (<i>\$ in Thousands</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:
 Tomahawk provides an attack capability against fixed and mobile/moving targets, and can be launched from both surface ships (RGM) and submarines (UGM). Tomahawk consists of the following variants: (1) RGM/UGM-109C, Land Attack Conventional; (2) RGM/UGM-109D, Land Attack Submunition Dispenser; (3) RGM/UGM-109E, Tactical Tomahawk.

The Block IV Tactical Tomahawk (TACTOM RGM/UGM-109E) preserves Tomahawk's long-range precision-strike capability while significantly increasing responsiveness and flexibility. TACTOM is capable of in-flight retargeting, the ability to loiter over the battlefield, in-flight missile health and status monitoring, and battle damage indication imagery, providing a digital look-down "snapshot" of the battlefield via a satellite data link. Other Tomahawk Weapon System functionality includes rapid mission planning and execution via Global Positioning System (GPS) onboard the launch platform and improved anti-jam GPS.

The TACTOM service life is 30 years with a 15 year deployment and recertification cycle, based on the historical production schedule of the TACTOM recertification will commence in FY 2019.

Characteristics and dimensions (approximate): Contractor: Raytheon Missiles Systems Company
 Weight (with booster and capsule) (UGM-109): 4,300 pounds
 Weight (with booster and canister) (RGM-109): 4,300 pounds
 Length (with booster): 20.5 feet
 Wing Span: 8.6 feet
 Cruise Speed: High Subsonic

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy								Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 02: Other Missiles / BSA 1: Strategic Missiles						P-1 Line Item Number / Title: 2101 / Tomahawk				
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A			Other Related Program Elements: N/A				
Line Item MDAP/MAIS Code: 289										
Exhibits Schedule					Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	1 / Tomahawk	P-5a, P-21			8,333 / 13,154.620	196 / 297.505	100 / 190.731	- / 21.230	- / 0.000	- / 21.230
P-3a	1 / TACTOM Modernization and Recertification Kits (Increase Capability and Maintain Reliability)				- / 0.000	- / 0.000	- / 43.730	- / 77.340	- / 0.000	- / 77.340
P-40	Total Gross/Weapon System Cost				8,333 / 13,154.620	196 / 297.505	100 / 234.461	- / 98.570	- / 0.000	- / 98.570
Exhibits Schedule					FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	1 / Tomahawk	P-5a, P-21			- / -	- / -	- / -	- / -	- / -	- / -
P-3a	1 / TACTOM Modernization and Recertification Kits (Increase Capability and Maintain Reliability)				- / 89.715	- / 99.929	- / 127.894	- / 162.053	- / 1,006.785	- / 1,607.446
P-40	Total Gross/Weapon System Cost				- / 98.115	- / 130.981	- / 210.305	- / 265.712	- / 1.984	8,629 / 14,492.253
*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.										
Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.										
<p>Justification:</p> <p>FY 2019 funding supports the transition from the production to the recertification phase of the program via continued production line shutdown funding and the induction of Fleet assets for recertification and installation of Anti-Access Area Denial (A2AD) modernization kits. FY 2019 funding supports the increase of 87 recertification kits.</p> <p>FY 2019 funding also supports the increased procurement of TACTOM A2AD modernization kits, from 87 in FY 2018 to 112 in FY 2019, support equipment and associated support.</p> <p>The FY 2019 funding request was reduced by \$0.167 million to reflect the Department of Navy's effort to support the Office of Management and Budget directed reforms for Efficiency and Effectiveness that include a lean, accountable, more efficient government.</p>										

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Exhibit P-5, Cost Analysis: PB 2019 Navy												Date: February 2018									
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 1						P-1 Line Item Number / Title: 2101 / Tomahawk						Item Number / Title [DODIC]: 1 / Tomahawk									
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:											
Resource Summary				Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
Procurement Quantity <i>(Units in Each)</i>				8,333			196			100			-			-			-		
Gross/Weapon System Cost <i>(\$ in Millions)</i>				13,154.620			297.505			190.731			21.230			0.000			21.230		
Less PY Advance Procurement <i>(\$ in Millions)</i>				-			-			-			-			-			-		
Net Procurement (P-1) <i>(\$ in Millions)</i>				13,154.620			297.505			190.731			21.230			0.000			21.230		
Plus CY Advance Procurement <i>(\$ in Millions)</i>				-			-			-			-			-			-		
Total Obligation Authority <i>(\$ in Millions)</i>				13,154.620			297.505			190.731			21.230			0.000			21.230		
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)																					
Initial Spares <i>(\$ in Millions)</i>				-			-			-			-			-			-		
Gross/Weapon System Unit Cost <i>(\$ in Thousands)</i>				1,578.618			1,517.883			1,907.310			-			-			-		
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																					
Cost Elements		Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total				
		Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)		
Flyaway - TOTAL HARDWARE - MISSILE Cost																					
Recurring Cost																					
1.1.1) PREVIOUS TOMAHAWK PRODUCTION	1,335.961	4,200	5,611.035	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000			
1.1.2) REMANUFACTURE (BLOCK III)	-	-	592.217	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000			
1.1.3) TACTICAL TOMAHAWK (VLS) ^(†)	897.613	2,990	2,683.864	1,141.403	196	223.715	1,533.440	100	153.344	-	-	0.000	-	-	0.000	-	-	0.000			
1.1.4) TACTICAL TOMAHAWK (CLS)	883.216	1,078	952.107	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000			
1.1.5) TACTICAL TOMAHAWK (TTL)	1,088.385	65	70.745	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000			
Subtotal: Recurring Cost	-	-	9,909.968	-	-	223.715	-	-	153.344	-	-	0.000	-	-	0.000	-	-	0.000			
Subtotal: Flyaway - TOTAL HARDWARE - MISSILE Cost	-	-	9,909.968	-	-	223.715	-	-	153.344	-	-	0.000	-	-	0.000	-	-	0.000			
Hardware - TOTAL HARDWARE - MISSILE - OTHER COSTS Cost																					
Recurring Cost																					
2.1.1) CCLS CAPSULE RETRO KIT	-	-	26.300	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000			
2.1.2) CCLS SUBMARINE CAPSULES	352.786	1,078	380.303	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000			

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Exhibit P-5, Cost Analysis: PB 2019 Navy													Date: February 2018					
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 1							P-1 Line Item Number / Title: 2101 / Tomahawk						Item Number / Title [DODIC]: 1 / Tomahawk					
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:								
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
2.1.3) MK 14 CANISTERS ^(†) (1)	81.525	2,990	243.760	21.128	196	4.141	32.950	100	3.295	-	-	0.000	-	-	0.000	-	-	0.000
2.1.4) OBSOLESCENCE	-	-	48.955	-	-	10.788	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
2.1.7) PRODUCTION LINE SHUTDOWN ⁽²⁾	-	-	0.000	-	-	0.000	-	-	13.657	-	-	20.164	-	-	0.000	-	-	20.164
Subtotal: Recurring Cost	-	-	699.318	-	-	14.929	-	-	16.952	-	-	20.164	-	-	0.000	-	-	20.164
Subtotal: Hardware - TOTAL HARDWARE - MISSILE - OTHER COSTS Cost	-	-	699.318	-	-	14.929	-	-	16.952	-	-	20.164	-	-	0.000	-	-	20.164
Support - TOTAL PROCUREMENT SUPPORT - MISSILE Cost																		
3.1) PRODUCT IMPROVEMENT	-	-	435.331	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
3.2) PRODUCTION ENGINEERING SUPPORT	-	-	776.529	-	-	10.232	-	-	9.463	-	-	0.000	-	-	0.000	-	-	0.000
3.3) SPECIAL TOOLING & TEST EQUIPMENT (ST & TE)	-	-	38.090	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
3.4) SYSTEMS ENGINEERING	-	-	416.879	-	-	8.362	-	-	7.537	-	-	0.000	-	-	0.000	-	-	0.000
Subtotal: Support - TOTAL PROCUREMENT SUPPORT - MISSILE Cost	-	-	1,666.829	-	-	18.594	-	-	17.000	-	-	0.000	-	-	0.000	-	-	0.000
Support - TOTAL FLEET SUPPORT - MISSILE Cost																		
4.1) DOCUMENTATION	-	-	32.257	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
4.2) SUPPORT EQUIPMENT ⁽³⁾	-	-	189.733	-	-	40.267	-	-	3.435	-	-	1.066	-	-	0.000	-	-	1.066
4.3) THEATER MISSION PLANNING CENTER	-	-	255.044	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
4.4) TRAINING EQUIPMENT	-	-	87.953	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
5.1) EOQ	-	-	50.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
5.2) EOQ Credit	-	-	-50.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
Subtotal: Support - TOTAL FLEET SUPPORT - MISSILE Cost	-	-	564.987	-	-	40.267	-	-	3.435	-	-	1.066	-	-	0.000	-	-	1.066
Support - TOTAL SPARES & REPAIR PARTS Cost																		
6.1) TOMAHAWK INITIAL SPARES	-	-	313.518	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000

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Exhibit P-5, Cost Analysis: PB 2019 Navy													Date: February 2018					
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 1							P-1 Line Item Number / Title: 2101 / Tomahawk						Item Number / Title [DODIC]: 1 / Tomahawk					
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:								
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Subtotal: Support - TOTAL SPARES & REPAIR PARTS Cost	-	-	313.518	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
Gross/Weapon System Cost	1,578.618	8,333	13,154.620	1,517.883	196	297.505	1,907.310	100	190.731	-	-	21.230	-	-	0.000	-	-	21.230

(t) indicates the presence of a P-5a

Footnotes:

(1) In FY 2018, expended mod 1 MK14 canisters will be remanufactured to the current mod 2 configuration by Naval Munitions Command Weapons Station activities. As a result, new MK14 canisters will not be procured in FY 2018, reducing the estimated unit cost. There are no canister procurements in FY 2019.

(2) Production line shutdown costs include \$20.164M in FY 2019 for RMS and sub-tiered vendor smart shutdown. This value accounts for unique elements associated with the energetic and unique/proprietary electronic sub vendors in a long range missile system. The suspension of the Tomahawk line will include three primary RMS facilities at Camden, the Rita Rd production facility, and Integration and Test facility in Tucson, Arizona. It will include disposition of tooling at Raytheon Missile Systems, and multiple vendors including twelve primary vendors integral to the production of the TACTOM. Suspension efforts at these facilities will include elements of the smart suspension guidelines to document, archive, preserve, store TACTOM unique production process/test documentation, test equipment, tooling, support equipment, and address environmental issues mandatory for Tomahawk contractors to recertify missiles as the program transitions from the production to the depot phase.

(3) Support Equipment in FY 2019 is for oversight support for the Mid-Body Range Safety System (MRSS) which is used within Tomahawk Flight Tests (TFTs) to control missile flight capabilities. MRSS Kit quantity is based on the projected Tomahawk Flight Test profile required to support operational flight testing requirements associated with Tomahawk modernization.

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Exhibit P-5a, Procurement History and Planning: PB 2019 Navy								Date: February 2018				
Appropriation / Budget Activity / Budget Sub Activity:			P-1 Line Item Number / Title:					Item Number / Title [DODIC]:				
1507N / 02 / 1			2101 / Tomahawk					1 / Tomahawk				
Cost Elements	OCO	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$ K)	Specs Avail Now?	Date Revision Available	RFP Issue Date
1.1.3) TACTICAL TOMAHAWK (VLS) ^(†)		2016	Raytheon Missile System / Tucson, AZ	SS / FP	NAVAIR	Dec 2016	Dec 2017	149	1,093.617	Y		Jul 2015
1.1.3) TACTICAL TOMAHAWK (VLS) ^(†)		2017	Raytheon Missile System / Tucson, AZ	SS / FP	NAVAIR	Sep 2017	Sep 2018	196	1,141.403	Y		Jul 2016
1.1.3) TACTICAL TOMAHAWK (VLS) ^(†)		2018 ⁽⁴⁾	Raytheon Missile System / Tucson, AZ	SS / FP	NAVAIR	May 2018	Jul 2019	34	1,639.052	Y		Jul 2017
1.1.3) TACTICAL TOMAHAWK (VLS) ^(†)	✓	2018	Raytheon Missile System / Tucson, AZ	SS / FP	NAVAIR	May 2018	Jul 2019	66	1,479.030	Y		Jul 2017
2.1.3) MK 14 CANISTERS ^(†)		2016	BAE / MINNEAPOLIS, MN	C / FP	NAVSEA	Mar 2016	Apr 2017	149	79.127	Y		Jun 2012
2.1.3) MK 14 CANISTERS ^(†)		2017	BAE / MINNEAPOLIS, MN	C / FP	NAVSEA	Mar 2017	Jan 2018	196	21.128	Y		Jul 2016
2.1.3) MK 14 CANISTERS ^(†)		2018	Naval Munitions Command Weapons Station / Various	WR	N/A	Mar 2018	Jan 2019	34	32.950	Y		Mar 2018
2.1.3) MK 14 CANISTERS ^(†)	✓	2018	Naval Munitions Command Weapons Station / Various	WR	N/A	Mar 2018	Jan 2019	66	32.955	Y		Mar 2018

^(†) indicates the presence of a P-21

Footnotes:

⁽⁴⁾ FY 2018 baseline and OCO quantities will be negotiated and awarded on one production contract to achieve quantity cost savings with a composite unit cost of \$1,533K and total quantity of 100.

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Exhibit P-21, Production Schedule: PB 2019 Navy																				Date: February 2018																							
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 1										P-1 Line Item Number / Title: 2101 / Tomahawk										Item Number / Title [DODIC]: 1 / Tomahawk																							
Cost Elements <i>(Units in Each)</i>							Fiscal Year 2016										Fiscal Year 2017														B A L A N C E												
O C C #	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2015	BAL DUE AS OF 1 OCT	Calendar Year 2016										Calendar Year 2017																										
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P													
1.1.3) TACTICAL TOMAHAWK (VLS)																																											
Prior Years Deliveries: 2841																																											
	1	2016	NAVY	149	0	149															A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	149							
	1	2017	NAVY	196	0	196																									A -	196											
	1	2018	NAVY	34	0	34																										34											
✓	1	2018	NAVY	66	0	66																										66											
2.1.3) MK 14 CANISTERS ⁽¹⁾																																											
Prior Years Deliveries: 2841																																											
	2	2016	NAVY	149	0	149															A -	-	-	-	-	-	-	-	-	-	-	-	-	2	14	14	14	14	13	78			
	2	2017	NAVY	196 ⁽⁵⁾	0	196																									A -	-	-	-	-	-	-	-	-	-	-	-	196
	3	2018	NAVY	34	0	34																																			34		
✓	3	2018	NAVY	66	0	66	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	66												

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Exhibit P-21, Production Schedule: PB 2019 Navy																							Date: February 2018												
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 1										P-1 Line Item Number / Title: 2101 / Tomahawk													Item Number / Title [DODIC]: 1 / Tomahawk												
Cost Elements <i>(Units in Each)</i>							Fiscal Year 2018													Fiscal Year 2019													BALANCE		
OCCO	MFR#	FY	SERVICE	PROCQTY	ACCEPT PRIOR TO 1 OCT 2017	BAL DUE AS OF 1 OCT	Calendar Year 2018													Calendar Year 2019															
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP					
1.1.3) TACTICAL TOMAHAWK (VLS)																																			
Prior Years Deliveries: 2841																																			
	1	2016	NAVY	149	0	149	-	-	2	14	14	14	14	13	13	13	13	13	13	13														0	
	1	2017	NAVY	196	0	196	-	-	-	-	-	-	-	-	-	-	16	16	16	17	17	16	16	16	17	17	15	17		0					
	1	2018	NAVY	34	0	34								A -	-	-	-	-	-	-	-	-	-	-	-	-	-	3	3	3	25				
✓	1	2018	NAVY	66	0	66								A -	-	-	-	-	-	-	-	-	-	-	-	-	-	6	6	6	48				
2.1.3) MK 14 CANISTERS ⁽¹⁾																																			
Prior Years Deliveries: 2841																																			
	2	2016	NAVY	149	71	78	13	13	13	13	13	13																							0
	2	2017	NAVY	196 ⁽⁵⁾	0	196	-	-	-	16	16	16	16	16	17	16	17	16	17	16	17														0
	3	2018	NAVY	34	0	34								A -	-	-	-	-	-	-	-	-	-	3	3	3	3	3	3	3	3	7			
✓	3	2018	NAVY	66	0	66								A -	-	-	-	-	-	-	-	-	-	6	6	6	6	6	6	6	6	12			
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP					

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Exhibit P-21, Production Schedule: PB 2019 Navy																					Date: February 2018													
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 1										P-1 Line Item Number / Title: 2101 / Tomahawk											Item Number / Title [DODIC]: 1 / Tomahawk													
Cost Elements <i>(Units in Each)</i>							Fiscal Year 2020											Fiscal Year 2021											BALANCE					
O C C #	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2019	BAL DUE AS OF 1 OCT				Calendar Year 2020											Calendar Year 2021													
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L		A U G	S E P			
1.1.3) TACTICAL TOMAHAWK (VLS)																																		
Prior Years Deliveries: 2841																																		
	1	2016	NAVY	149	149	0																										0		
	1	2017	NAVY	196	196	0																										0		
	1	2018	NAVY	34	9	25	3	3	3	3	3	3	3	2	2																0			
✓	1	2018	NAVY	66	18	48	6	6	6	6	6	6	6	3	3																0			
2.1.3) MK 14 CANISTERS ⁽¹⁾																																		
Prior Years Deliveries: 2841																																		
	2	2016	NAVY	149	149	0																										0		
	2	2017	NAVY	196 ⁽⁵⁾	196	0																										0		
	3	2018	NAVY	34	27	7	3	2	2																						0			
✓	3	2018	NAVY	66	54	12	6	3	3	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	

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Exhibit P-21, Production Schedule: PB 2019 Navy								Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 1					P-1 Line Item Number / Title: 2101 / Tomahawk				Item Number / Title [DODIC]: 1 / Tomahawk		

MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Year)			Procurement Leadtime (Months)							
		MSR For 2019	1-8-5 For 2019	MAX For 2019	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	Raytheon Missile System - Tucson, AZ	196	360	456	0	0	0	0	0	8	14	22
2	BAE - MINNEAPOLIS, MN	100	100	196	0	0	0	0	0	6	10	16
3	Naval Munitions Command Weapons Station - Various	100	100	196	0	6	10	16	0	0	0	0

"A" in the Delivery Schedule indicates the Contract Award Date.

Note: Due to space limitations, quantities in the Exhibit P-21 delivery calendar are truncated and rounded based on the maximum quantity in the calendar as follows. If the maximum quantity is less than or equal to than 9,999, all quantities are shown as each. If the maximum quantity is between 10,000 and 999,999 all quantities are shown in thousands. If the maximum quantity is between 1,000,000 and 999,999,999 all quantities are shown in millions (rounded to the nearest thousand). If the maximum quantity is equal or greater than 1,000,000,000 all quantities are shown in billions (rounded to the nearest million).

Footnotes:

⁽⁵⁾ MSR/MAX production rates are based on canister contract constraints. Multiple canister configurations are manufactured at BAE in Aberdeen, South Dakota for multiple customers in the same facility. The family includes MK7, MK8, MK13, MK15, MK21 and MK236. As a result of the broad number of customers, the demand level is sufficient for the industrial base. There is no specific MSR/MAX for the MK14 TACTOM canister. MSR/MAX would be a factor of the entire family of canisters.

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Exhibit P-3a, Individual Modification: PB 2019 Navy										Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 1					P-1 Line Item Number / Title: 2101 / Tomahawk					Modification Number / Title: 1 / TACTOM Modernization and Recertification Kits		
ID Code (A=Service Ready, B=Not Service Ready) :							MDAP/MAIS Code:					
Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	0.000	0.000	43.730	77.340	0.000	77.340	89.715	99.929	127.894	162.053	1,006.785	1,607.446
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	0.000	0.000	43.730	77.340	0.000	77.340	89.715	99.929	127.894	162.053	1,006.785	1,607.446
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	0.000	0.000	43.730	77.340	0.000	77.340	89.715	99.929	127.894	162.053	1,006.785	1,607.446
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Thousands</i>)	-	-	-	-	-	-	-	-	-	-	-	-
<p>Description:</p> <p>The Tactical Tomahawk (TACTOM) Anti-Access Area Denial (A2AD) Modernization kits consist of the Integrated Single Box Solution (ISBS) radio, two new antennas and associated cabling, a new mid-body cover, and changes to the aft-body structure and aft-body cover. The ISBS radio is replacing the existing Satellite Data Link Terminal (SDLT) and the new Ultra High Frequency (UHF) antenna is replacing the existing UHF antenna. A second antenna is being added to the missile to accommodate a second frequency band. The changes to the missile are driven by the obsolescence of the SDLT hardware and the obsolescence of the UHF Demand Assigned Multiple Access (DAMA) communications infrastructure that is being phased out of service. An Engineering Change Proposal (ECP) will be developed in FY 2018 to implement the hardware and software changes to the missile. Tomahawk Weapon System Baseline IV, Operational Requirements Document (SN 641-76-04), Revision 3, 11 August 2004.</p> <p>Currently, all TACTOMs will be updated with the A2AD hardware as part of recertification starting in FY 2019. Projected quantity over the life cycle is 3,992. Installations begin in FY 2019.</p> <p>The TACTOM service life for RGM109E and UGM109E Block IV Tomahawk cruise missiles is 30 years with a 15 year deployment and recertification cycle. According to the current Block IV AUR production schedule, recertification will begin in FY 2019. The TACTOM recertification includes FY 2018 funding associated with the non-recurring engineering across the prime contractor and sub-tiered vendor base required for the standup of the Tactical Tomahawk recertification line. Depot standup activities include the establishment and validation of the recertification line at Raytheon, as well as 12 sub-vendors. This will include updating, refurbishing, and replacing existing Tooling and Test Equipment which has been in existence from the early 1980s (Tomahawk Block II/III Depot and Production lines) along with the unique Tactical Tomahawk tooling and Test Equipment procured in FY 2003/2004. All hardware required to conduct the verification and validation process, which includes completion of work packages and conducting a First Article test, needs to be in place before commencing recertification in FY 2019.</p> <p>The yearly recertification profile will limit missile backlog within the Fleet due to the expiration of life limiting components. This activity includes the costs associated with the Raytheon labor, vendor recertification of specific components (i.e. mechanical and electrical components), recertification of the MK 45 submarine capsule, missile consumables, fuze recertification and fuel. Recertification is planned to occur concurrently with installation of A2AD Modernization Kits, which will replace the existing SDLT radio and antenna.</p>												

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Exhibit P-3a, Individual Modification: PB 2019 Navy									Date: February 2018				
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 1				P-1 Line Item Number / Title: 2101 / Tomahawk					Modification Number / Title: 1 / TACTOM Modernization and Recertification Kits				
ID Code (A=Service Ready, B=Not Service Ready) :							MDAP/MAIS Code:						
Models of Systems Affected: TACTOM				Modification Type: Increase Capability and Maintain Reliability				Related RDT&E PEs: 0204229N					
Financial Plan	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total	
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	
Procurement													
Modification Item 1 of 2: Recertification													
A Kits													
Recurring													
1.1.1) Recertification kits - NonOrganic ⁽⁶⁾		- / -	- / -	- / -	87 / 15.947	- / -	87 / 15.947	112 / 18.043	156 / 22.584	156 / 22.381	348 / 41.116	3,133 / 232.609	3,992 / 352.680
Subtotal: Recurring		- / 0.000	- / -	- / -	- / 15.947	- / -	- / 15.947	- / 18.043	- / 22.584	- / 22.381	- / 41.116	- / 232.609	- / 352.680
Subtotal: Recertification		- / -	- / -	- / -	87 / 15.947	- / -	87 / 15.947	112 / 18.043	156 / 22.584	156 / 22.381	348 / 41.116	3,133 / 232.609	3,992 / 352.680
Modification Item 2 of 2: Modification													
A Kits													
Recurring													
2.1.1) A2AD kits - NonOrganic ⁽⁷⁾		- / -	- / -	87 / 15.761	112 / 20.169	- / -	112 / 20.169	156 / 27.132	156 / 27.177	348 / 55.652	274 / 45.161	2,859 / 207.796	3,992 / 398.848
Subtotal: Recurring		- / 0.000	- / -	- / 15.761	- / 20.169	- / -	- / 20.169	- / 27.132	- / 27.177	- / 55.652	- / 45.161	- / 207.796	- / 398.848
Subtotal: Modification		- / -	- / -	87 / 15.761	112 / 20.169	- / -	112 / 20.169	156 / 27.132	156 / 27.177	348 / 55.652	274 / 45.161	2,859 / 207.796	3,992 / 398.848
Subtotal: Procurement, All Modification Items		- / 0.000	- / -	- / 15.761	- / 36.116	- / -	- / 36.116	- / 45.175	- / 49.761	- / 78.033	- / 86.277	- / 440.405	- / 751.528
Support (All Modification Items)													
3.1) Other Production Support- A2AD Modification ⁽⁸⁾		- / 0.000	- / 0.000	- / 0.176	- / 0.177	- / 0.000	- / 0.177	- / 0.182	- / 0.183	- / 0.187	- / 0.184	- / 2.138	- / 3.227
3.2) Support Equipment- A2AD Modification ⁽⁹⁾		- / 0.000	- / 0.000	- / 0.035	- / 0.035	- / 0.000	- / 0.035	- / 0.038	- / 0.035	- / 0.035	- / 0.035	- / 0.399	- / 0.612
3.3) Integrated Logistics Support- A2AD Modification ⁽¹⁰⁾		- / 0.000	- / 0.000	- / 0.024	- / 0.024	- / 0.000	- / 0.024	- / 0.027	- / 0.024	- / 0.024	- / 0.024	- / 0.274	- / 0.421
3.4) Other Production Support- Recertification ⁽¹¹⁾		- / 0.000	- / 0.000	- / 0.000	- / 1.222	- / 0.000	- / 1.222	- / 1.245	- / 1.197	- / 1.206	- / 1.205	- / 15.953	- / 22.028
3.5) Support Equipment- Recertification ⁽¹²⁾		- / 0.000	- / 0.000	- / 0.000	- / 0.264	- / 0.000	- / 0.264	- / 0.269	- / 0.275	- / 0.280	- / 0.285	- / 3.191	- / 4.564
3.6) Integrated Logistics Support- Recertification ⁽¹³⁾		- / 0.000	- / 0.000	- / 0.000	- / 0.176	- / 0.000	- / 0.176	- / 0.179	- / 0.183	- / 0.186	- / 0.192	- / 2.126	- / 3.042
3.7) MK-45 Support- Recertification ⁽¹⁴⁾		- / 0.000	- / 0.000	- / 7.190	- / 6.811	- / 0.000	- / 6.811	- / 6.888	- / 6.812	- / 5.942	- / 6.069	- / 96.765	- / 136.477
3.8) Recertification Line Stand-Up ⁽¹⁵⁾		- / 0.000	- / 0.000	- / 20.544	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / -	- / 20.544
Subtotal: Support		- / 0.000	- / -	- / 27.969	- / 8.709	- / -	- / 8.709	- / 8.828	- / 8.709	- / 7.860	- / 7.994	- / 120.846	- / 190.915
Installation													
Modification Item 1 of 2: Recertification		- / 0.000	- / 0.000	- / 0.000	- / 28.036	- / 0.000	- / 28.036	- / 30.498	- / 35.146	- / 35.568	- / 55.515	- / 349.838	- / 534.601
Modification Item 2 of 2: Modification		- / 0.000	- / 0.000	- / 0.000	- / 4.479	- / 0.000	- / 4.479	- / 5.214	- / 6.313	- / 6.433	- / 12.267	- / 95.696	- / 130.402

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Exhibit P-3a, Individual Modification: PB 2019 Navy										Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 1				P-1 Line Item Number / Title: 2101 / Tomahawk						Modification Number / Title: 1 / TACTOM Modernization and Recertification Kits			
ID Code (A=Service Ready, B=Not Service Ready) :								MDAP/MAIS Code:					
Models of Systems Affected: TACTOM				Modification Type: Increase Capability and Maintain Reliability						Related RDT&E PEs: 0204229N			
Financial Plan	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total	
	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	
<i>Subtotal: Installation</i>	<i>- / 0.000</i>	<i>- / -</i>	<i>- / -</i>	<i>- / 32.515</i>	<i>- / -</i>	<i>- / 32.515</i>	<i>- / 35.712</i>	<i>- / 41.459</i>	<i>- / 42.001</i>	<i>- / 67.782</i>	<i>- / 445.534</i>	<i>- / 665.003</i>	
Total													
Total Cost (Procurement + Support + Installation)	0.000	0.000	43.730	77.340	0.000	77.340	89.715	99.929	127.894	162.053	1,006.785	1,607.446	

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Exhibit P-3a, Individual Modification: PB 2019 Navy										Date: February 2018																					
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 1										P-1 Line Item Number / Title: 2101 / Tomahawk										Modification Number / Title: 1 / TACTOM Modernization and Recertification Kits											
ID Code (A=Service Ready, B=Not Service Ready) :															MDAP/MAIS Code:																
Modification Item 1 of 2: Recertification																															
Manufacturer Information																															
Manufacturer Name: RAYTHEON Company															Manufacturer Location: TUCSON, AZ																
Administrative Leadtime (in Months): 2															Production Leadtime (in Months): 3																
Dates		FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023					
Contract Dates										Dec 2018				Nov 2019				Nov 2020				Nov 2021				Nov 2022					
Delivery Dates										Mar 2019				Dec 2019				Dec 2020				Dec 2021				Dec 2022					
Installation Information																															
Method of Implementation: Contractor:: Installation Name: Recertification kits																															
Installation Cost		Prior Years		FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total		FY 2020		FY 2021		FY 2022		FY 2023		To Complete		Total							
		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)							
Prior Years		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -					
FY 2017		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -					
FY 2018		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -					
FY 2019		- / -		- / -		- / -		87 / 28.036		0 / 0.000		87 / 28.036		- / -		- / -		- / -		- / -		- / -		0 / 0.000		87 / 28.036					
FY 2020		- / -		- / -		- / -		- / -		- / -		- / -		112 / 30.498		- / -		- / -		- / -		- / -		0 / 0.000		112 / 30.498					
FY 2021		- / -		- / -		- / -		- / -		- / -		- / -		- / -		156 / 35.146		- / -		- / -		- / -		0 / 0.000		156 / 35.146					
FY 2022		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		156 / 35.568		- / -		- / -		0 / 0.000		156 / 35.568					
FY 2023		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		348 / 55.515		0 / 0.000		348 / 55.515					
To Complete		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		3,133 / 349.838		3,133 / 349.838					
Total		- / -		- / -		- / -		87 / 28.036		0 / 0.000		87 / 28.036		112 / 30.498		156 / 35.146		156 / 35.568		348 / 55.515		3,133 / 349.838		3,992 / 534.601							
Installation Schedule																															
	PYS	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				TC	Tot
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
In	-	-	-	-	-	-	-	-	-	-	29	29	29	28	28	28	28	39	39	39	39	39	39	39	39	87	87	87	87	3,133	3,992
Out	-	-	-	-	-	-	-	-	-	-	29	29	29	28	28	28	28	39	39	39	39	39	39	39	39	87	87	87	87	3,133	3,992

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Exhibit P-3a, Individual Modification: PB 2019 Navy											Date: February 2018																					
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 1											P-1 Line Item Number / Title: 2101 / Tomahawk											Modification Number / Title: 1 / TACTOM Modernization and Recertification Kits										
ID Code (A=Service Ready, B=Not Service Ready) :																MDAP/MAIS Code:																
Modification Item 2 of 2: Modification																																
Manufacturer Information																																
Manufacturer Name: RAYTHEON Company																Manufacturer Location: TUCSON, AZ																
Administrative Leadtime (in Months): 1																Production Leadtime (in Months): 12																
Dates		FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023						
Contract Dates						Jan 2018				Nov 2018				Nov 2019				Nov 2020				Nov 2021				Nov 2022						
Delivery Dates						Jan 2019				Nov 2019				Nov 2020				Nov 2021				Nov 2022				Nov 2023						
Installation Information																																
Method of Implementation: Contractor:: Installation Name: A2AD kits																																
Installation Cost		Prior Years		FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total		FY 2020		FY 2021		FY 2022		FY 2023		To Complete		Total								
		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)								
Prior Years		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -						
FY 2017		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -						
FY 2018		- / -		- / -		- / -		87 / 4.479		0 / 0.000		87 / 4.479		- / -		- / -		- / -		- / -		- / -		0 / 0.000		87 / 4.479						
FY 2019		- / -		- / -		- / -		- / -		- / -		- / -		112 / 5.214		- / -		- / -		- / -		- / -		0 / 0.000		112 / 5.214						
FY 2020		- / -		- / -		- / -		- / -		- / -		- / -		- / -		156 / 6.313		- / -		- / -		- / -		0 / 0.000		156 / 6.313						
FY 2021		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		156 / 6.433		- / -		- / -		0 / 0.000		156 / 6.433						
FY 2022		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		348 / 12.267		0 / 0.000		348 / 12.267						
FY 2023		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		274 / 12.175		274 / 12.175						
To Complete		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		2,859 / 83.521		2,859 / 83.521						
Total		- / -		- / -		- / -		87 / 4.479		0 / 0.000		87 / 4.479		112 / 5.214		156 / 6.313		156 / 6.433		348 / 12.267		3,133 / 95.696		3,992 / 130.402								
Installation Schedule																																
	PYS	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				TC	Tot	
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
In	-	-	-	-	-	-	-	-	-	-	29	29	29	28	28	28	28	39	39	39	39	39	39	39	39	87	87	87	87	3,133	3,992	
Out	-	-	-	-	-	-	-	-	-	-	29	29	29	28	28	28	28	39	39	39	39	39	39	39	39	87	87	87	87	3,133	3,992	
Footnotes:																																
⁽⁶⁾ Recertification kit unit cost decrease across the FYDP associated with the increase in quantity procured. Increases in installation costs across the FYDP are directly correlated to the increasing quantity of kits procured. Installation costs are based on 453 factory touch hours per missile and 72 factory touch hours per MK45 CCLS for the first year of recertification. In the following years, installation costs are calculated																																

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Exhibit P-3a, Individual Modification: PB 2019 Navy		Date: February 2018
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 1	P-1 Line Item Number / Title: 2101 / Tomahawk	Modification Number / Title: 1 / TACTOM Modernization and Recertification Kits
ID Code (A=Service Ready, B=Not Service Ready) :		MDAP/MAIS Code:
<p>using learning and labor curves that are consistent with statistics in the Block IV Production cost model. Install costs have been budgeted on an annualized basis within the year that the install will occur. Due to procurement lead times, the A2AD modernization kit is installed one year following procurement.</p> <p>(7) The cost model continues to be refined with the results of engineering analysis through the completion of recertification studies, which has led to decrease in the quantity of A2AD kits in FY 2018.</p> <p>(8) Unique Government and contractor production support and recurring fixed costs that is required per lot of A2AD Modernization Kit. Funding reflects required obsolescence mitigation including avionics, electrical, and structures bill of material development, and obsolescence ECP forecasting in order to support the extended end of service date.</p> <p>(9) Includes unique support and test equipment required to support the integration of the A2AD Modernization Kit during recertification. This would include planning, resourcing and implementing management actions to acquire and support the equipment required to sustain and validate the A2AD capability/functionality ensuring that the TACTOM is available to the warfighter when it is needed.</p> <p>(10) Costs of support equipment management, computer resources support, training and training support, ILS program management, and packaging, handling, storage and transportation as associated with the A2AD Modernization Kit.</p> <p>(11) Unique government and contractor production support and recurring fixed costs that is required per lot of recertification kit. Funding reflects required obsolescence mitigation including avionics, electrical, and structures bill of material development, and obsolescence ECP forecasting in order to support the extended end of service date.</p> <p>(12) Includes unique support and test equipment required to support the integration of the recertification kit. This would include planning, resourcing, and implementing management actions to acquire and support the equipment required to sustain and validate the capability/functionality ensuring that the TACTOM is available to the warfighter when it is needed.</p> <p>(13) Costs of support equipment management, computer resources support, training and training support, ILS program management, and packaging, handling, storage and transportation as associated with the recertification kit.</p> <p>(14) Funds the MK-45 vendor base required to recertify and extend the service life of the CCLS barrels, retains the production line at Raytheon needed to assemble and breakdown the barrels, funds the vendor base required for the functionality of the MK-45 to include the gas generators and NSWC Indian Head who produces the powder for the gas generator manufacturer.</p> <p>(15) FY 2018 Depot standup funding in the amount of \$20.544M is required for the prove in of the end-to-end recertification processes. The process takes five Block IV missiles through the entire recertification process. This is essential to qualifying test and tooling equipment, refining recertification processes and exercising quality/inspection procedures. All of which ensures that the end-to-end recertification line is ready for induction of missiles in FY 2019.</p>		

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy										Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 02: Other Missiles / BSA 2: Tactical Missiles							P-1 Line Item Number / Title: 2206 / AMRAAM					
ID Code (A=Service Ready, B=Not Service Ready): A				Program Elements for Code B Items: N/A				Other Related Program Elements: N/A				
Line Item MDAP/MAIS Code: 185												
Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity <i>(Units in Each)</i>	2,471	163	120	140	1	141	222	316	347	358	323	4,461
Gross/Weapon System Cost <i>(\$ in Millions)</i>	2,343.996	197.229	197.109	211.058	1.183	212.241	284.895	348.246	359.433	367.486	385.083	4,695.718
Less PY Advance Procurement <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) <i>(\$ in Millions)</i>	2,343.996	197.229	197.109	211.058	1.183	212.241	284.895	348.246	359.433	367.486	385.083	4,695.718
Plus CY Advance Procurement <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority <i>(\$ in Millions)</i>	2,343.996	197.229	197.109	211.058	1.183	212.241	284.895	348.246	359.433	367.486	385.083	4,695.718
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares <i>(\$ in Millions)</i>	-	1.093	3.371	2.440	-	2.440	4.467	3.158	4.255	4.341	Continuing	Continuing
Flyaway Unit Cost <i>(\$ in Thousands)</i>	882.938	1,199.650	1,613.308	1,486.779	1,183.000	1,484.624	1,269.473	1,092.377	1,018.326	1,008.919	1,133.105	1,006.001
Gross/Weapon System Unit Cost <i>(\$ in Thousands)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Description: The Advanced Medium Range Air-to-Air Missile (AMRAAM) is the premier all-weather, all-environment radar guided missile developed jointly by the Air Force and Navy. The Air Force is the lead service. AMRAAM is a small, light, fast missile with improved capabilities against very low and high-altitude targets in an electronic attack (EA) environment. The AIM-120D provides increased performance from improved kinematics, GPS-aided navigation, a two-way data link; which enhances aircrew survivability and network compatibility, and new guidance software to combat a technologically capable adversary, reduce risk in air combat scenarios, and limit missile defense challenges.												

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy								Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 02: Other Missiles / BSA 2: Tactical Missiles						P-1 Line Item Number / Title: 2206 / AMRAAM				
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A			Other Related Program Elements: N/A				
Line Item MDAP/MAIS Code: 185										
Exhibits Schedule					Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	1 / AMRAAM	P-5a, P-21			2,471 / 2,343.996	163 / 197.229	120 / 197.109	140 / 211.058	1 / 1.183	141 / 212.241
P-40	Total Gross/Weapon System Cost				2,471 / 2,343.996	163 / 197.229	120 / 197.109	140 / 211.058	1 / 1.183	141 / 212.241
*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.										
Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.										

Justification:
 FY 2019 funding procures 140 AMRAAM missiles in support of warfighter requirements. Quantity and funding in FY 2019 is limited due to parts obsolescence of the base AIM-120D version and line start-up for the Form, Fit, and Function (F3R) version of the missile. FY 2019 buy will be comprised of a combination of AIM-120D and F3R versions based on final contract negotiations.

Funding also provides required support costs such as: test and technical production support, procurement of training equipment, diminishing manufacturing sources, and test equipment/test equipment upgrades to support the AIM-120D configuration.

The FY 2019 funding request was reduced by \$0.862 million to reflect the Department of Navy's effort to support the Office of Management and Budget directed reforms for Efficiency and Effectiveness that include a lean, accountable, more efficient government.

OCO:
 FY 2019 Overseas Contingency Operations (OCO) funding is requested to replenish one AMRAAM (AIM-120) expended in direct support of combat operations during Operation Inherent Resolve.

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Exhibit P-5, Cost Analysis: PB 2019 Navy												Date: February 2018						
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2						P-1 Line Item Number / Title: 2206 / AMRAAM						Item Number / Title [DODIC]: 1 / AMRAAM						
ID Code (A=Service Ready, B=Not Service Ready) :									MDAP/MAIS Code:									
Resource Summary				Prior Years		FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total				
Procurement Quantity <i>(Units in Each)</i>				2,471		163		120		140		1		141				
Gross/Weapon System Cost <i>(\$ in Millions)</i>				2,343.996		197.229		197.109		211.058		1.183		212.241				
Less PY Advance Procurement <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Net Procurement (P-1) <i>(\$ in Millions)</i>				2,343.996		197.229		197.109		211.058		1.183		212.241				
Plus CY Advance Procurement <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Total Obligation Authority <i>(\$ in Millions)</i>				2,343.996		197.229		197.109		211.058		1.183		212.241				
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)																		
Initial Spares <i>(\$ in Millions)</i>				-		1.093		3.371		2.440		-		2.440				
Gross/Weapon System Unit Cost <i>(\$ in Thousands)</i>				948.602		1,209.994		1,642.575		1,507.557		1,183.000		1,505.255				
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Flyaway - MISSILE Cost																		
Recurring Cost																		
1.1.1) AIM-120 MISSILE - ALL-UP-ROUND (AUR) ^{(†) (1)}	572.026	2,136	1,221.848	983.840	163	160.366	1,109.675	120	133.161	1,169.093	140	163.673	1,169.093	1	1.169	1,169.093	141	164.842
1.1.2) AIM-120 MISSILE - CAPTIVE AIR TRAINING MISSILE (CATM) ^(†)	613.791	335	205.620	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.1.3) WARRANTY	-	-	36.120	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.1.4) DIMINISHING MANUFACTURING SOURCES (DMS) ⁽²⁾	-	-	176.384	-	-	22.279	-	-	35.049	-	-	28.264	-	-	-	-	-	28.264
1.1.5) TOOLING AND TEST EQUIPMENT ⁽³⁾	-	-	27.571	-	-	2.019	-	-	5.765	-	-	6.079	-	-	-	-	-	6.079
1.1.6) ENGINEERING CHANGE ORDERS (ECO) ⁽⁴⁾	-	-	32.375	-	-	1.269	-	-	0.870	-	-	0.974	-	-	-	-	-	0.974
Subtotal: Recurring Cost	-	-	1,699.918	-	-	185.933	-	-	174.845	-	-	198.990	-	-	1.169	-	-	200.159
Subtotal: Flyaway - MISSILE Cost	-	-	1,699.918	-	-	185.933	-	-	174.845	-	-	198.990	-	-	1.169	-	-	200.159
Flyaway - NONRECURRING and ANCILLARY EQUIPMENT Cost																		
Non Recurring Cost																		

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Exhibit P-5, Cost Analysis: PB 2019 Navy											Date: February 2018							
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2						P-1 Line Item Number / Title: 2206 / AMRAAM					Item Number / Title [DODIC]: 1 / AMRAAM							
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:								
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
2.1.1) SPECIAL TOOLING AND TEST EQUIPMENT	-	-	85.866	-	-	-	-	-	7.648	-	-	-	-	-	-	-	-	-
2.1.2) CONTAINERS (5)	-	-	5.204	-	-	-	-	-	2.000	-	-	-	-	-	-	-	-	-
Subtotal: Non Recurring Cost	-	-	91.070	-	-	-	-	-	9.648	-	-	-	-	-	-	-	-	-
Subtotal: Flyaway - NONRECURRING and ANCILLARY EQUIPMENT Cost	-	-	91.070	-	-	-	-	-	9.648	-	-	-	-	-	-	-	-	-
Flyaway - PRODUCTION SUPPORT Cost																		
Recurring Cost																		
3.1.1) TEST SUPPORT	-	-	128.845	-	-	4.883	-	-	4.486	-	-	4.571	-	-	-	-	-	4.571
3.1.2) TECHNICAL SUPPORT	-	-	261.908	-	-	4.727	-	-	4.618	-	-	4.588	-	-	0.014	-	-	4.602
Subtotal: Recurring Cost	-	-	390.753	-	-	9.610	-	-	9.104	-	-	9.159	-	-	0.014	-	-	9.173
Subtotal: Flyaway - PRODUCTION SUPPORT Cost	-	-	390.753	-	-	9.610	-	-	9.104	-	-	9.159	-	-	0.014	-	-	9.173
Support - SUPPORT COST - FLEET Cost																		
4.1) PECULIAR SUPPORT EQUIPMENT	-	-	60.880	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4.2) TRAINING EQUIPMENT (6)	-	-	23.787	-	-	0.077	-	-	1.872	-	-	1.334	-	-	-	-	-	1.334
4.3) INTEGRATED LOGISTICS SUPPORT (ILS)	-	-	77.588	-	-	1.609	-	-	1.640	-	-	1.575	-	-	-	-	-	1.575
Subtotal: Support - SUPPORT COST - FLEET Cost	-	-	162.255	-	-	1.686	-	-	3.512	-	-	2.909	-	-	-	-	-	2.909
Gross/Weapon System Cost	948.602	2,471	2,343.996	1,209.994	163	197.229	1,642.575	120	197.109	1,507.557	140	211.058	1,183.000	1	1.183	1,505.255	141	212.241
Remarks: The "To Complete" column reflects missile production through FY 2024. (†) indicates the presence of a P-5a																		

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Exhibit P-5, Cost Analysis: PB 2019 Navy		Date: February 2018
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2	P-1 Line Item Number / Title: 2206 / AMRAAM	Item Number / Title [DODIC]: 1 / AMRAAM
ID Code (A=Service Ready, B=Not Service Ready) :		MDAP/MAIS Code:
Footnotes: (1) Unit cost calculations are based on combined procurement of Navy, AF and FMS buys for each fiscal year. The FY 2019 unit cost increase from FY 2018 budget reflects USAF quantity reductions. (2) FY 2019 DMS costs include obsolescence and loss of manufacturing sources for the Form, Fit, Function Refresh (F3R) program (13 Circuit Card Assemblies (CCA)) to mitigate obsolescence in the guidance section which will enable single integration, and consolidated qualification and flight testing along with the Central Processing Unit (CPU) Spike Extension Program (1 CCA). The costs are prorated among Navy, AF, and FMS. (3) Increase in FY 2019 is to procure unique tooling and test equipment required to incorporate redesigned F3R replacement components into the production line. (4) Engineering Change Orders line provides funding to test and qualify class I engineering change proposals by the prime vendor into missile production. Fluctuations correspond directly with total cost of hardware procured. (5) Containers are required to maintain pace with quantities, ensure the updated in-container reprogramming capability continues and replace outdated/damaged containers. The containers are typically funded every four years based on procurement quantities. (6) Training equipment request includes funding for AMRAAM Telemetry System (ATS) used to collect missile performance data for in production missiles for product improvement within the current performance envelope.		

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Exhibit P-5a, Procurement History and Planning: PB 2019 Navy									Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2			P-1 Line Item Number / Title: 2206 / AMRAAM						Item Number / Title [DODIC]: 1 / AMRAAM			
Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty <i>(Each)</i>	Unit Cost <i>(\$ K)</i>	Specs Avail Now?	Date Revision Available	RFP Issue Date
1.1.1) AIM-120 MISSILE - ALL-UP-ROUND (AUR) ^(†)		2016 ⁽⁷⁾	Raytheon Missile System ⁽⁸⁾ / Tucson, AZ	SS / FPIF	EGLIN AFB, FL	Mar 2016	Jul 2018	117	969.564	Y		Jul 2013
1.1.1) AIM-120 MISSILE - ALL-UP-ROUND (AUR) ^(†)		2017	Raytheon Missile System ⁽⁸⁾ / Tucson, AZ	SS / FPIF	EGLIN AFB, FL	Dec 2017	Apr 2019	163	983.840	Y		Feb 2016
1.1.1) AIM-120 MISSILE - ALL-UP-ROUND (AUR) ^(†)		2018	Raytheon Missile System ⁽⁸⁾ / Tucson, AZ	SS / FPIF	EGLIN AFB, FL	Jan 2018	Apr 2020	120	1,109.675	Y		Jan 2017
1.1.1) AIM-120 MISSILE - ALL-UP-ROUND (AUR) ^(†)		2019	Raytheon Missile System ⁽⁸⁾ / Tucson, AZ	SS / FPIF	EGLIN AFB, FL	Mar 2019	Apr 2021	140	1,169.093	Y		Nov 2017
1.1.1) AIM-120 MISSILE - ALL-UP-ROUND (AUR) ^(†)	✓	2019	Raytheon Missile System ⁽⁸⁾ / Tucson, AZ	SS / FPIF	EGLIN AFB, FL	Mar 2019	Apr 2021	1	1,169.093	Y		Nov 2017
1.1.2) AIM-120 MISSILE - CAPTIVE AIR TRAINING MISSILE (CATM) ^(†)		2016 ⁽⁹⁾	Raytheon Missile System / Tucson, AZ	SS / FPIF	EGLIN AFB, FL	Mar 2016	Apr 2018	41	433.024	Y		Aug 2013

^(†) indicates the presence of a P-21

Footnotes:

⁽⁷⁾ FY 2016 AUR deliveries have been delayed due to rebaselining to a quarterly vice a monthly schedule and adjust for overall production capacity

⁽⁸⁾ AIM-120 MSR is 400 missiles per year, consisting of USN, USAF, and approved FMS procurement with no less than 100 of a particular variant. Max factory capacity enables production of 960 missiles. FY19 production capacity is constrained to 571 missiles, of which at least 210 are FMS missiles, due to ramp rate of Form, Fit, Function Refresh (F3R) and parts limitation.

⁽⁹⁾ FY 2016 CATM deliveries have been delayed due to rebaselining to a quarterly vice a monthly schedule and adjust for overall production capacity. The procurement lead time has increased by 6 months to allow vendor additional time to obtain long lead items required for production.

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Exhibit P-21, Production Schedule: PB 2019 Navy																				Date: February 2018															
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2										P-1 Line Item Number / Title: 2206 / AMRAAM										Item Number / Title [DODIC]: 1 / AMRAAM															
Cost Elements (Units in Each)							Fiscal Year 2018										Fiscal Year 2019													B A L A N C E					
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEP T P R I O R T O 1 O C T 2 0 1 7	BAL DUE AS OF 1 OCT	Calendar Year 2018													Calendar Year 2019															
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G		S E P				
1.1.1) AIM-120 MISSILE - ALL-UP-ROUND (AUR) ⁽¹⁾																																			
Prior Years Deliveries: 2019																																			
	1	2016	NAVY	117	0	117	-	-	-	-	-	-	-	-	-	40	-	-	40	-	-	37	-	-	-						0				
	1	2016	AF ^(‡)	281	0	281	-	-	-	-	-	-	-	-	-	72	-	-	64	-	-	73	-	-	72						0				
	1	2016	FMS ^(‡)	212	0	212	-	-	-	-	-	-	-	-	-	52	-	-	61	-	-	47	-	-	52						0				
	1	2016	Total	610	0	610	-	-	-	-	-	-	-	-	-	164	-	-	165	-	-	157	-	-	124	-	-	-	-	-	0				
	1	2017	NAVY	163	0	163				A -	-	-	-	-	-	-	-	-	-	-	-	-	-	15	-	-	15	-	-	133					
	1	2017	AF ^(‡)	256	0	256				A -	-	-	-	-	-	-	-	-	-	-	-	-	-	52	-	-	53	-	-	151					
	1	2017	FMS ^(‡)	306	0	306				A -	-	-	-	-	-	-	-	-	-	-	-	-	-	114	-	-	112	-	-	80					
	1	2017	Total	725	0	725				-	-	-	-	-	-	-	-	-	-	-	-	-	-	181	-	-	180	-	-	364					
	1	2018	NAVY	120	0	120				A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	120					
	1	2018	AF ^(‡)	205	0	205				A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	205					
	1	2018	FMS ^(‡)	245	0	245				A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	245					
	1	2018	Total	570	0	570				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	570					
	1	2019	NAVY	140	0	140																					A -	-	-	-	-	-	-	-	140
	1	2019	AF ^(‡)	220	0	220																					A -	-	-	-	-	-	-	-	220
	1	2019	FMS ^(‡)	210	0	210																					A -	-	-	-	-	-	-	-	210
	1	2019	Total Base	570	0	570																					-	-	-	-	-	-	-	-	570
✓	1	2019	NAVY	1	0	1																					A -	-	-	-	-	-	-	-	1
1.1.2) AIM-120 MISSILE - CAPTIVE AIR TRAINING MISSILE (CATM)																																			
Prior Years Deliveries: 294																																			
	2	2016	NAVY	41	0	41	-	-	-	-	-	-	-	41																			0		
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P					

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Exhibit P-21, Production Schedule: PB 2019 Navy																			Date: February 2018														
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2										P-1 Line Item Number / Title: 2206 / AMRAAM										Item Number / Title [DODIC]: 1 / AMRAAM													
Cost Elements (Units in Each)							Fiscal Year 2020										Fiscal Year 2021										B A L A N C E						
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEP T P R I O R T O 1 O C T 2 0 1 9	BAL DUE AS OF 1 OCT	Calendar Year 2020										Calendar Year 2021																
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y		J U N	J U L	A U G	S E P		
1.1.1) AIM-120 MISSILE - ALL-UP-ROUND (AUR) ⁽¹⁾																																	
Prior Years Deliveries: 2019																																	
	1	2016	NAVY	117	117	0																											0
	1	2016	AF (‡)	281	281	0																											0
	1	2016	FMS (‡)	212	212	0																											0
	1	2016	Total	610	610	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0		
	1	2017	NAVY	163	30	133	66	-	-	67																							0
	1	2017	AF (‡)	256	105	151	76	-	-	75																							0
	1	2017	FMS (‡)	306	226	80	40	-	-	40																							0
	1	2017	Total	725	361	364	182	-	-	182	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0		
	1	2018	NAVY	120	0	120	-	-	-	-	-	-	30	-	-	30	-	-	30	-	-	30							0				
	1	2018	AF (‡)	205	0	205	-	-	-	-	-	-	51	-	-	51	-	-	51	-	-	52							0				
	1	2018	FMS (‡)	245	0	245	-	-	-	-	-	-	60	-	-	60	-	-	62	-	-	63							0				
	1	2018	Total	570	0	570	-	-	-	-	-	-	141	-	-	141	-	-	143	-	-	145	-	-	-	-	-	-	-	-	0		
	1	2019	NAVY	140	0	140	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	35	-	-	35	-	-	70			
	1	2019	AF (‡)	220	0	220	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	55	-	-	55	-	-	110			
	1	2019	FMS (‡)	210	0	210	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	-	-	52	-	-	106			
	1	2019	Total Base	570	0	570	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	142	-	-	142	-	-	286			
✓	1	2019	NAVY	1	0	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1							0		
1.1.2) AIM-120 MISSILE - CAPTIVE AIR TRAINING MISSILE (CATM)																																	
Prior Years Deliveries: 294																																	
	2	2016	NAVY	41	41	0																											0
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P			

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Exhibit P-21, Production Schedule: PB 2019 Navy								Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2				P-1 Line Item Number / Title: 2206 / AMRAAM				Item Number / Title [DODIC]: 1 / AMRAAM			

MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Year)			Procurement Leadtime (Months)							
		MSR For 2019	1-8-5 For 2019	MAX For 2019	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	Raytheon Missile System ⁽⁸⁾ - Tucson, AZ	400	400	960	6	3	21	24	11	6	25	31
2	Raytheon Missile System - Tucson, AZ	400	400	960	6	3	24	27	7	6	25	31

(‡) Delivery rows marked with this symbol indicate that they are funded through a separate Line Item. See the respective components' exhibits for details, including the full delivery schedule.

"A" in the Delivery Schedule indicates the Contract Award Date.

Note: Due to space limitations, quantities in the Exhibit P-21 delivery calendar are truncated and rounded based on the maximum quantity in the calendar as follows. If the maximum quantity is less than or equal to than 9,999, all quantities are shown as each. If the maximum quantity is between 10,000 and 999,999 all quantities are shown in thousands. If the maximum quantity is between 1,000,000 and 999,999,999 all quantities are shown in millions (rounded to the nearest thousand). If the maximum quantity is equal or greater than 1,000,000,000 all quantities are shown in billions (rounded to the nearest million).

Footnotes:

⁽⁸⁾ AIM-120 MSR is 400 missiles per year, consisting of USN, USAF, and approved FMS procurement with no less than 100 of a particular variant. Max factory capacity enables production of 960 missiles. FY19 production capacity is constrained to 571 missiles, of which at least 210 are FMS missiles, due to ramp rate of Form, Fit, Function Refresh (F3R) and parts limitation.

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy									Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 02: Other Missiles / BSA 2: Tactical Missiles						P-1 Line Item Number / Title: 2209 / Sidewinder						
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: 0204162N, 0204138M				Other Related Program Elements: 0207161N, 0207161F, 0604319A					
Line Item MDAP/MAIS Code: 000												
Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	2,155	147	185	191	1	192	198	200	192	192	476	3,937
Gross/Weapon System Cost (<i>\$ in Millions</i>)	780.305	70.912	79.692	77.927	0.381	78.308	81.970	89.480	92.044	99.881	352.510	1,725.102
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	780.305	70.912	79.692	77.927	0.381	78.308	81.970	89.480	92.044	99.881	352.510	1,725.102
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	780.305	70.912	79.692	77.927	0.381	78.308	81.970	89.480	92.044	99.881	352.510	1,725.102
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	0.138	3.208	1.531	-	1.531	3.150	1.516	3.009	2.517	Continuing	Continuing
Flyaway Unit Cost (<i>\$ in Dollars</i>)	334,000.00	406,523.81	367,367.57	346,282.72	378,000.00	346,447.92	352,767.68	385,590.00	414,255.21	453,770.83	630,279.41	388,023.88
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
<p>Description:</p> <p>The AIM-9X Block II/II+ Sidewinder (AIM-9X Blk II/II+) continues the evolution of the AIM-9 series of missiles. This missile program delivers a launch and leave, air combat munition that uses passive Infrared (IR) energy to acquire and track enemy air targets and complements the radar guided Advanced Medium Range Air-to-Air Missile (AMRAAM). Air superiority in short range engagements is essential to the Department of the Navy, and this missile provides first shot, first kill opportunities against enemy targets employing IR countermeasures. Anti-Tamper features have been incorporated to protect improvements inherent in this design. The AIM-9X Block II missile is critical to project power and win decisively in accordance with the Fiscal Year 2015 Defense Planning Guidance and Chief of Naval Operations' Navigation Plan for 2015-2019.</p> <p>AIM-9X is a Post Milestone C, Acquisition Category IC (ACAT-IC) joint service program led by the Department of the Navy. In June 2011, the Milestone Decision Authority (MDA) established the AIM-9X Block II missile program which was approved for entry at Milestone C for Low Rate Initial Production (LRIP). The 2366 A/B certification and Acquisition Program Baseline for AIM-9X Block II was signed December 23, 2011, and the Block I program was terminated. In August 2015, the program received approval for Full Rate Production (FRP), and the Acquisition Program Baseline was re-established.</p> <p>In FY 2017, the program began to procure a third variant of the missile labeled the AIM-9X Block II PLUS (Block II+) to satisfy the requirements of the Joint Strike Fighter platform. This version of the missile is being produced on the same production line as the AIM-9X Block II missile. For contracting purposes, the nomenclature of the AIM-9X Block II missile will be identified as AIM-9X-2 and the AIM-9X Block II+ missile will be identified as AIM-9X-3.</p>												

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy							Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 02: Other Missiles / BSA 2: Tactical Missiles						P-1 Line Item Number / Title: 2209 / Sidewinder				
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: 0204162N, 0204138M			Other Related Program Elements: 0207161N, 0207161F, 0604319A				
Line Item MDAP/MAIS Code: 000										
Exhibits Schedule					Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	1 / SIDEWINDER BLOCK II	P-5a, P-21			2,155 / 780.305	147 / 70.912	185 / 79.692	191 / 77.927	1 / 0.381	192 / 78.308
P-40	Total Gross/Weapon System Cost				2,155 / 780.305	147 / 70.912	185 / 79.692	191 / 77.927	1 / 0.381	192 / 78.308
*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.										
Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.										
<p>Justification:</p> <p>FY 2019 provides funding to procure the fifth lot of Full Rate Production (FRP) AIM-9X Block II (Blk II) missiles, as well as the third lot of AIM-9X Block II Plus (Blk II+) missiles for the Navy. FY 2019 also continues the procurement of missiles for the Army Indirect Fire Protection Capability Increment 2 (IFPC2) program. The program unit costs are based on quantities procured by all the US Navy, US Air Force and US Army as well as Foreign Military Sales customers.</p> <p>Total Program quantity by service includes a mix of All Up Round (AUR) missiles and Captive Air Training Missiles (CATM) as such:</p> <p>The Navy will procure 3,937 total missiles under this Budget Line Item: 1,289 Block I missiles (885 AURs and 404 CATMs) and 2,648 Block II missiles, including Block II+ (2067 AURs and 581 CATMs). In addition, the Navy procured 63 Block I missiles in FY 2001 under the AIM-9M Modification program (48 AURs and 15 CATMs).</p> <p>The Air Force will procure 5,030 total missiles under Budget Line Item 3479 (P1-4): 1,678 Block I missiles (1,093 AURs and 585 CATMs) and 3,352 Block II missiles, including Block II+ (2,859 AURs and 493 CATMs). In addition, the Air Force procured 67 Block I missiles in FY 2001 under the AIM-9M Modification program (45 AURs and 22 CATMs).</p> <p>The Army will procure AIM-9X Block II missiles under Budget Line Item C6100 (P1-3).</p> <p>The FY 2019 funding request was reduced by \$0.256 million to reflect the Department of Navy's effort to support the Office of Management and Budget directed reforms for Efficiency and Effectiveness that include a lean, accountable, more efficient government.</p> <p>OCO:</p> <p>FY 2019 Overseas Contingency Operations (OCO) funding is requested to replenish one Sidewinder (AIM-9X) expended in direct support of combat operations during Operation Inherent Resolve.</p>										

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Exhibit P-5, Cost Analysis: PB 2019 Navy													Date: February 2018								
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2							P-1 Line Item Number / Title: 2209 / Sidewinder						Item Number / Title [DODIC]: 1 / SIDEWINDER BLOCK II								
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:											
Resource Summary				Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
Procurement Quantity (Units in Each)				2,155			147			185			191			1			192		
Gross/Weapon System Cost (\$ in Millions)				780.305			70.912			79.692			77.927			0.381			78.308		
Less PY Advance Procurement (\$ in Millions)				-			-			-			-			-			-		
Net Procurement (P-1) (\$ in Millions)				780.305			70.912			79.692			77.927			0.381			78.308		
Plus CY Advance Procurement (\$ in Millions)				-			-			-			-			-			-		
Total Obligation Authority (\$ in Millions)				780.305			70.912			79.692			77.927			0.381			78.308		
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)																					
Initial Spares (\$ in Millions)				-			0.138			3.208			1.531			-			1.531		
Gross/Weapon System Unit Cost (\$ in Dollars)				362,090.49			482,394.56			430,767.57			407,994.76			381,000.00			407,854.17		
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																					
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total					
	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)			
Flyaway - MISSILE Cost																					
Recurring Cost																					
1.1.1) All Up Round - Block II ^(†) (1)	414,891.63	609	252.669	378,630.77	65	24.611	370,842.11	133	49.322	378,408.33	120	45.409	378,408.33	1	0.378	378,408.33	121	45.787			
1.1.2) Captive Air Training Missile - Block II ^(†) (2)	221,334.63	257	56.883	196,062.50	32	6.274	212,750.00	40	8.510	214,333.33	63	13.503	-	-	-	214,333.33	63	13.503			
1.1.3) All Up Round - Block II Plus ^(†) (3)	-	-	-	539,860.00	50	26.993	483,333.33	12	5.800	492,625.00	8	3.941	-	-	-	492,625.00	8	3.941			
1.1.4) Engineering Change Orders - Block II ⁽⁴⁾	-	-	2.038	-	-	-	-	-	-	-	-	0.609	-	-	-	-	-	0.609			
1.1.5) Diminishing Manufacturing Sources (DMS) ⁽⁵⁾	-	-	4.357	-	-	0.720	-	-	1.637	-	-	1.610	-	-	-	-	-	1.610			
1.1.6) Government Cost (GFE & Testing) - Block II ⁽⁶⁾	-	-	0.409	-	-	0.035	-	-	0.065	-	-	0.059	-	-	-	-	-	0.059			
Subtotal: Recurring Cost	-	-	316.356	-	-	58.633	-	-	65.334	-	-	65.131	-	-	0.378	-	-	65.509			
Subtotal: Flyaway - MISSILE Cost	-	-	316.356	-	-	58.633	-	-	65.334	-	-	65.131	-	-	0.378	-	-	65.509			
Flyaway - Prior Year Sidewinder Block 1 Cost																					
Recurring Cost																					
2.1.1) Prior Year Sidewinder Block 1	-	-	364.058	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			

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Exhibit P-5, Cost Analysis: PB 2019 Navy												Date: February 2018						
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2						P-1 Line Item Number / Title: 2209 / Sidewinder						Item Number / Title [DODIC]: 1 / SIDEWINDER BLOCK II						
ID Code (A=Service Ready, B=Not Service Ready) :									MDAP/MAIS Code:									
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
Subtotal: Recurring Cost	-	-	364.058	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Flyaway - Prior Year Sidewinder Block 1 Cost	-	-	364.058	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway - Nonrecurring and Ancillary Equip Cost																		
Non Recurring Cost																		
3.1.1) Special Tool & Test Equip (ST/STE) - Block II ⁽⁷⁾	-	-	12.524	-	-	0.601	-	-	2.002	-	-	0.331	-	-	-	-	-	0.331
3.1.2) Missile Containers - Block II ⁽⁸⁾	13,028.69	244	3.179	11,931.82	44	0.525	12,057.69	52	0.627	12,327.27	55	0.678	-	-	-	12,327.27	55	0.678
3.1.3) Nonrecurring Engineering - Block II	-	-	23.653	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Non Recurring Cost	-	-	39.356	-	-	1.126	-	-	2.629	-	-	1.009	-	-	-	-	-	1.009
Subtotal: Flyaway - Nonrecurring and Ancillary Equip Cost	-	-	39.356	-	-	1.126	-	-	2.629	-	-	1.009	-	-	-	-	-	1.009
Support - Production Support Cost																		
4.1) Production Technical Support - Block II ⁽⁹⁾	-	-	14.989	-	-	2.187	-	-	2.021	-	-	2.062	-	-	-	-	-	2.062
Subtotal: Support - Production Support Cost	-	-	14.989	-	-	2.187	-	-	2.021	-	-	2.062	-	-	-	-	-	2.062
Support - Support Costs Cost																		
5.1) Peculiar Support Equipment - Block II ⁽¹⁰⁾	-	-	0.415	-	-	0.094	-	-	0.033	-	-	0.034	-	-	-	-	-	0.034
5.2) Training Support - Block II ⁽¹¹⁾	-	-	0.162	-	-	0.005	-	-	0.029	-	-	0.029	-	-	-	-	-	0.029
5.3) Training Equipment - Block II ⁽¹²⁾	-	-	3.529	-	-	0.793	-	-	1.430	-	-	1.459	-	-	-	-	-	1.459
5.4) Contract Support - Block II	-	-	5.531	-	-	0.839	-	-	0.835	-	-	0.781	-	-	-	-	-	0.781
5.5) Government In-House Support - Block II ⁽¹³⁾	-	-	35.909	-	-	7.235	-	-	7.381	-	-	7.422	-	-	0.003	-	-	7.425
Subtotal: Support - Support Costs Cost	-	-	45.546	-	-	8.966	-	-	9.708	-	-	9.725	-	-	0.003	-	-	9.728
Gross/Weapon System Cost	362,090.49	2,155	780.305	482,394.56	147	70.912	430,767.57	185	79.692	407,994.76	191	77.927	381,000.00	1	0.381	407,854.17	192	78.308

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Exhibit P-5, Cost Analysis: PB 2019 Navy		Date: February 2018
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2	P-1 Line Item Number / Title: 2209 / Sidewinder	Item Number / Title [DODIC]: 1 / SIDEWINDER BLOCK II
ID Code (A=Service Ready, B=Not Service Ready) :		MDAP/MAIS Code:
Remarks: [Flyaway] <p>(t) indicates the presence of a P-5a</p>		
Footnotes: <p>(1) The All Up Round (AUR) Block II procures tactical missiles used for combat and aggression deterrence. The unit cost increase from FY 2018 to FY 2019 reflects total AUR quantity decrease across all services. The OCO funding in FY 2019 is required to replace one missile fired during operation Inherent Resolve in June 2017. FY 2017 unit costs reflect actual contract award pricing, and FY 2018 and out unit cost reflects the AIM-9X Block II. Unit cost changes are heavily driven by quantity changes from year to year.</p> <p>(2) The Captive Air Training Missile (CATM) are used in pilot training in non-combat areas and do not launch. They are similar to AUR missiles but do not include a rocket motor or warhead. FY 2019 CATM unit cost increase is associated with a net decrease in CATM quantity procurement across all services.</p> <p>(3) The AUR Block II Plus procures tactical missiles for the Joint Strike Fighter Program. The Navy quantity decreased from 12 in FY 2018 to 8 in FY 2019 resulting in a increase in cost per unit.</p> <p>(4) The Engineering Change Orders line provides funding to test and qualify class 1 engineering changes proposed by the prime vendor into missile production. Program does not anticipate changes for FY 2017 and FY 2018. The increase in FY 2019 reflects the program cost model estimates and is based on total hardware procured.</p> <p>(5) DMS provides funding to design, develop, test and qualify form/fit/function replacement components to the production missile as a result of changes in sub-vendor manufacturers.</p> <p>(6) The Government Furnished Equipment line procures government owned hardware required to produce the missiles. The primary item procured are warheads. The increase from FY 2017 to FY 2018 is due to increased total hardware buy.</p> <p>(7) The ST/STE line provides funding for production tooling and test equipment to the AIM-9X manufacturing line to ensure missiles are produced efficiently, and within specifications. The decrease from FY 2018 to FY 2019 reflects cyclical production tooling updates. Every 3 years the program requires production tooling to be replaced.</p> <p>(8) Containers are procured to ship missiles and are procured 1 for every 4 missiles of each variant (missile variants cannot be mixed within a container). The slight increase in unit cost above inflation from FY 2018 to FY 2019 is due to rounding.</p> <p>(9) The production tech support line includes funding to manage technical documentation, training development and delivery, production support, and management of government owned property, to support production of AIM-9X configurations.</p> <p>(10) The PSE line provides gauges and equipment to calibrate government furnished rocket motors.</p> <p>(11) The training support line provides technical publications and training manuals to fleet maintainers.</p> <p>(12) The training equipment line includes the Telemetry (TM) Kits used to collect flight data for production qualification testing and weapons safety evaluations. TM kits are based on missile quantities procured and are manufactured by Naval Air Warfare Center, China Lake.</p> <p>(13) The government in-house support line provides US Government Systems Engineering and Project Management support at Naval Air Warfare Centers for the production of the AIM-9X missile to ensure compliance with joint service developed cost, schedule and performance requirements.</p>		

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Exhibit P-5a, Procurement History and Planning: PB 2019 Navy								Date: February 2018				
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2			P-1 Line Item Number / Title: 2209 / Sidewinder					Item Number / Title [DODIC]: 1 / SIDEWINDER BLOCK II				
Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$)	Specs Avail Now?	Date Revision Available	RFP Issue Date
1.1.1) All Up Round - Block II ^(†)		2015	Raytheon Missile Systems / Tucson, AZ	C / FPIF	NAVAIR	Aug 2015	Jan 2017	102	401,676.47	Y		Jan 2014
1.1.1) All Up Round - Block II ^(†)		2016	Raytheon Missile Systems / Tucson, AZ	C / FPIF	NAVAIR	Jun 2016	Jan 2018	165	367,412.50	Y		Jan 2015
1.1.1) All Up Round - Block II ^(†)		2017	Raytheon Missile Systems / Tucson, AZ	C / FPIF	NAVAIR	Mar 2017	Apr 2019	65	378,630.77	Y		Jan 2016
1.1.1) All Up Round - Block II ^(†)		2018	Raytheon Missile Systems / Tucson, AZ	C / FPIF	NAVAIR	May 2018	Apr 2020	133	370,842.11	Y		Mar 2017
1.1.1) All Up Round - Block II ^(†)		2019	Raytheon Missile Systems / Tucson, AZ	C / FPIF	NAVAIR	Feb 2019	Apr 2021	120	378,408.33	Y		Jan 2018
1.1.1) All Up Round - Block II ^(†)	✓	2019	Raytheon Missile Systems / Tucson, AZ	C / FPIF	NAVAIR	Feb 2019	Apr 2021	1	378,408.33	Y		Jan 2018
1.1.2) Captive Air Training Missile - Block II ^(†)		2015	Raytheon Missile System / Tucson, AZ	C / FPIF	NAVAIR	Aug 2015	Jan 2017	54	211,351.85	Y		Jan 2014
1.1.2) Captive Air Training Missile - Block II ^(†)		2016	Raytheon Missile System / Tucson, AZ	C / FPIF	NAVAIR	Jun 2016	Jan 2018	47	193,148.94	Y		Jan 2015
1.1.2) Captive Air Training Missile - Block II ^(†)		2017	Raytheon Missile System / Tucson, AZ	C / FPIF	NAVAIR	Mar 2017	Apr 2019	32	196,062.50	Y		Jan 2016
1.1.2) Captive Air Training Missile - Block II ^(†)		2018	Raytheon Missile System / Tucson, AZ	C / FPIF	NAVAIR	May 2018	Apr 2020	40	212,750.00	Y		Mar 2017
1.1.2) Captive Air Training Missile - Block II ^(†)		2019	Raytheon Missile System / Tucson, AZ	C / FPIF	NAVAIR	Feb 2019	Apr 2021	63	214,333.33	Y		Jan 2018
1.1.3) All Up Round - Block II Plus ^(†)		2017	Raytheon Missile System ⁽¹⁴⁾ / Tucson, AZ	C / FPIF	NAVAIR	Mar 2017	Mar 2019	50	539,860.00	Y		Jan 2016
1.1.3) All Up Round - Block II Plus ^(†)		2018	Raytheon Missile System ⁽¹⁴⁾ / Tucson, AZ	C / FPIF	NAVAIR	May 2018	Mar 2020	12	483,333.33	Y		Mar 2017
1.1.3) All Up Round - Block II Plus ^(†)		2019	Raytheon Missile System ⁽¹⁴⁾ / Tucson, AZ	C / FPIF	NAVAIR	Feb 2019	Mar 2021	8	492,625.00	Y		Jan 2018
<p>(†) indicates the presence of a P-21</p> <p>Footnotes:</p> <p>⁽¹⁴⁾ The Manufacturing Production Lead Time after Award has increased 7 months consistent with actual manufacturing schedules in the FY 2016 and 2017 production contract awards.</p>												

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Exhibit P-21, Production Schedule: PB 2019 Navy																			Date: February 2018													
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2							P-1 Line Item Number / Title: 2209 / Sidewinder												Item Number / Title [DODIC]: 1 / SIDEWINDER BLOCK II													
Cost Elements (Units in Each)							Fiscal Year 2015										Fiscal Year 2016														B A L A N C E	
O C C O	M F R #	F Y	S E R V I C E	P R O C Q T Y	A C C E P T P R I O R T O 1 O C T 2 0 1 4	B A L D U E A S O F 1 O C T	Calendar Year 2015										Calendar Year 2016															
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P		
	2	2015	FMS (+)	13	0	13											A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13
	2	2015	Total	129	0	129											-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	129
	2	2016	NAVY	47 ⁽¹⁶⁾	0	47																										47
	2	2016	AF (+)	81	0	81																										81
	2	2016	FMS (+)	96	0	96																										96
	2	2016	Total	224	0	224																										224
	2	2017	NAVY	32	0	32																										32
	2	2017	AF (+)	77	0	77																										77
	2	2017	FMS (+)	98	0	98																										98
	2	2017	Total	207	0	207																										207
	2	2018	NAVY	40	0	40																										40
	2	2018	AF (+)	64	0	64																										64
	2	2018	FMS (+)	77	0	77																										77
	2	2018	Total	181	0	181																										181
	2	2019	NAVY	63	0	63																										63
	2	2019	ARMY (+)	3	0	3																										3
	2	2019	FMS (+)	74	0	74																										74
	2	2019	Total	140	0	140																										140
1.1.3) All Up Round - Block II Plus ⁽³⁾																																
	3	2017	NAVY	50	0	50																										50
	3	2017	AF (+)	50	0	50																										50
	3	2017	Total	100	0	100																										100
	3	2018	NAVY	12	0	12																										12
	3	2018	AF (+)	75	0	75																										75
	3	2018	FMS (+)	74	0	74																										74
	3	2018	Total	161	0	161																										161
	3	2019	NAVY	8	0	8																										8
	3	2019	AF (+)	80	0	80																										80
	3	2019	FMS (+)	50	0	50																										50
	3	2019	Total	138	0	138																										138
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P		

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Exhibit P-21, Production Schedule: PB 2019 Navy																				Date: February 2018														
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2										P-1 Line Item Number / Title: 2209 / Sidewinder										Item Number / Title [DODIC]: 1 / SIDEWINDER BLOCK II														
Cost Elements <i>(Units in Each)</i>							Fiscal Year 2017												Fiscal Year 2018												B A L A N C E			
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2016	BAL DUE AS OF 1 OCT				Calendar Year 2017												Calendar Year 2018												
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P				
1.1.1) All Up Round - Block II ⁽¹⁾																																		
Prior Years Deliveries: 342																																		
	1	2015	NAVY	102	0	102	-	-	-	11	36	20	-	-	34	-	-	-	-	-	1													0
	1	2015	AF ^(‡)	266	0	266	-	-	-	8	8	-	-	-	-	42	42	42	42	40	42													0
	1	2015	FMS ^(‡)	102	0	102	-	-	-	-	-	-	-	-	-	17	17	17	17	17	17													0
	1	2015	Total	470	0	470	-	-	-	19	44	20	-	-	34	59	59	59	59	57	60	-	-	-	-	-	-	-	-	-	0			
	1	2016	NAVY	165 ⁽¹⁵⁾	0	165	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	14	14	14	13	14	14	14	13	42			
	1	2016	ARMY ^(‡)	5	0	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-	1	-	2			
	1	2016	AF ^(‡)	471	0	471	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	39	39	39	40	39	39	39	40	39	118			
	1	2016	FMS ^(‡)	48	0	48	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	5	5	6	5	5	6	5	5	0			
	1	2016	Total	689	0	689	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	58	58	58	61	57	59	59	60	57	162			
	1	2017	NAVY	65	0	65						A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	65			
	1	2017	AF ^(‡)	160	0	160						A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	160			
	1	2017	FMS ^(‡)	120	0	120						A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	120			
	1	2017	Total	345	0	345						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	345			
	1	2018	NAVY	133	0	133																						A	-	-	-	-	-	133
	1	2018	ARMY ^(‡)	129	0	129																						A	-	-	-	-	-	129
	1	2018	AF ^(‡)	171	0	171																						A	-	-	-	-	-	171
	1	2018	FMS ^(‡)	230	0	230																						A	-	-	-	-	-	230
	1	2018	Total	663	0	663																						-	-	-	-	-	-	663
	1	2019	NAVY	120	0	120																											120	
	1	2019	ARMY ^(‡)	283	0	283																											283	
	1	2019	AF ^(‡)	176	0	176																											176	
	1	2019	Total Base	579	0	579																											579	
✓	1	2019	NAVY	1	0	1																											1	
1.1.2) Captive Air Training Missile - Block II ⁽²⁾																																		
Prior Years Deliveries: 156																																		
	2	2015	NAVY	54	0	54	-	-	-	54	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0			
	2	2015	ARMY ^(‡)	2	0	2	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	0			
	2	2015	AF ^(‡)	60	0	60	-	-	-	12	48	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0			
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P				

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Exhibit P-21, Production Schedule: PB 2019 Navy																			Date: February 2018																		
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2										P-1 Line Item Number / Title: 2209 / Sidewinder										Item Number / Title [DODIC]: 1 / SIDEWINDER BLOCK II																	
Cost Elements <i>(Units in Each)</i>							Fiscal Year 2017												Fiscal Year 2018												B A L A N C E						
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEP T P R I O R T O 1 O C T 2 0 1 6	BAL DUE AS OF 1 OCT				Calendar Year 2017												Calendar Year 2018															
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P							
2	2015		FMS (+)	13	0	13	-	-	-	-	-	-	-	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0					
2	2015		Total	129	0	129	-	-	-	66	48	-	-	2	1	1	1	1	1	2	2	1	1	1	1	-	-	-	-	-	-	0					
2	2016		NAVY	47 ⁽¹⁶⁾	0	47	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	3	4	10	4	4	4	3	3	9						
2	2016		AF (+)	81	0	81	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	10	10	6	6	6	6	7	6	19							
2	2016		FMS (+)	96	0	96	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	11	11	10	11	11	10	11	11	0							
2	2016		Total	224	0	224	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	24	25	26	21	21	20	21	20	28							
2	2017		NAVY	32	0	32						A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	32							
2	2017		AF (+)	77	0	77						A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	77							
2	2017		FMS (+)	98	0	98						A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	98							
2	2017		Total	207	0	207						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	207							
2	2018		NAVY	40	0	40																	A	-	-	-	-	-	-	40							
2	2018		AF (+)	64	0	64																	A	-	-	-	-	-	-	64							
2	2018		FMS (+)	77	0	77																	A	-	-	-	-	-	-	77							
2	2018		Total	181	0	181																	-	-	-	-	-	-	-	181							
2	2019		NAVY	63	0	63																									63						
2	2019		ARMY (+)	3	0	3																									3						
2	2019		FMS (+)	74	0	74																									74						
2	2019		Total	140	0	140																									140						
1.1.3) All Up Round - Block II Plus ⁽³⁾																																					
3	2017		NAVY	50	0	50						A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	50						
3	2017		AF (+)	50	0	50						A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	50						
3	2017		Total	100	0	100						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100						
3	2018		NAVY	12	0	12																									A	-	-	-	-	-	12
3	2018		AF (+)	75	0	75																									A	-	-	-	-	-	75
3	2018		FMS (+)	74	0	74																									A	-	-	-	-	-	74
3	2018		Total	161	0	161																									-	-	-	-	-	-	161
3	2019		NAVY	8	0	8																									8						
3	2019		AF (+)	80	0	80																									80						
3	2019		FMS (+)	50	0	50																									50						
3	2019		Total	138	0	138																									138						
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P							

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Exhibit P-21, Production Schedule: PB 2019 Navy																				Date: February 2018																
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2										P-1 Line Item Number / Title: 2209 / Sidewinder										Item Number / Title [DODIC]: 1 / SIDEWINDER BLOCK II																
Cost Elements <i>(Units in Each)</i>							Fiscal Year 2019										Fiscal Year 2020													B A L A N C E						
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2018	BAL DUE AS OF 1 OCT				Calendar Year 2019										Calendar Year 2020																
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G		S E P					
1.1.1) All Up Round - Block II ⁽¹⁾																																				
Prior Years Deliveries: 342																																				
	1	2015	NAVY	102	102	0																											0			
	1	2015	AF ^(‡)	266	266	0																											0			
	1	2015	FMS ^(‡)	102	102	0																											0			
	1	2015	Total	470	470	0																											-	-	-	-
	1	2016	NAVY	165 ⁽¹⁵⁾	123	42	14	14	14																											0
	1	2016	ARMY ^(‡)	5	3	2	1	-	1																											0
	1	2016	AF ^(‡)	471	353	118	39	39	40																											0
	1	2016	FMS ^(‡)	48	48	0	-	-	-																											0
	1	2016	Total	689	527	162	54	53	55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0				
	1	2017	NAVY	65	0	65	-	-	-	-	-	-	5	10	10	8	4	4	4	4	4	4	4	4	4	4	4							0		
	1	2017	AF ^(‡)	160	0	160	-	-	-	-	-	-	10	10	10	10	10	10	14	15	26	15	20	0												
	1	2017	FMS ^(‡)	120	0	120	-	-	-	-	-	-	10	10	10	10	10	10	10	10	10	10	10	10	0											
	1	2017	Total	345	0	345	-	-	-	-	-	-	25	30	30	28	24	24	24	28	29	40	29	34	-	-	-	-	-	-	-	0				
	1	2018	NAVY	133	0	133	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	11	11	11	11	11	67				
	1	2018	ARMY ^(‡)	129	0	129	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	11	11	10	11	11	64				
	1	2018	AF ^(‡)	171	0	171	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	14	14	14	14	14	87				
	1	2018	FMS ^(‡)	230	0	230	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	19	19	19	19	19	115				
	1	2018	Total	663	0	663	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	56	55	55	54	55	55	333				
	1	2019	NAVY	120	0	120						A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	120				
	1	2019	ARMY ^(‡)	283	0	283						A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	283				
	1	2019	AF ^(‡)	176	0	176						A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	176				
	1	2019	Total Base	579	0	579						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	579				
✓	1	2019	NAVY	1	0	1						A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1				
1.1.2) Captive Air Training Missile - Block II ⁽²⁾																																				
Prior Years Deliveries: 156																																				
	2	2015	NAVY	54	54	0																											0			
	2	2015	ARMY ^(‡)	2	2	0																											0			
	2	2015	AF ^(‡)	60	60	0																											0			
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P						

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Exhibit P-21, Production Schedule: PB 2019 Navy

Date: February 2018

Appropriation / Budget Activity / Budget Sub Activity:
1507N / 02 / 2P-1 Line Item Number / Title:
2209 / SidewinderItem Number / Title [DODIC]:
1 / SIDEWINDER BLOCK II

Cost Elements (Units in Each)						Fiscal Year 2019												Fiscal Year 2020												BALANCE								
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2018	BAL DUE AS OF 1 OCT	Calendar Year 2019												Calendar Year 2020																			
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG		SEP							
	2	2015	FMS (+)	13	13	0																													0			
	2	2015	Total	129	129	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0							
	2	2016	NAVY	47 ⁽¹⁶⁾	38	9	3	3	3																													0
	2	2016	AF (+)	81	62	19	7	6	6																													0
	2	2016	FMS (+)	96	96	0	-	-	-																													0
	2	2016	Total	224	196	28	10	9	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0							
	2	2017	NAVY	32	0	32	-	-	-	-	-	-	2	2	2	2	2	2	2	2	4	6	4							0								
	2	2017	AF (+)	77	0	77	-	-	-	-	-	-	8	8	7	6	6	6	6	6	6	6	6							0								
	2	2017	FMS (+)	98	0	98	-	-	-	-	-	-	8	8	8	8	8	9	8	8	8	8	8	9							0							
	2	2017	Total	207	0	207	-	-	-	-	-	-	18	18	17	16	16	17	16	16	16	18	20	19	-	-	-	-	-	-	0							
	2	2018	NAVY	40	0	40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	3	3	4	4	3		20								
	2	2018	AF (+)	64	0	64	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	5	6	5	5	6		32									
	2	2018	FMS (+)	77	0	77	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	7	6	7	6	7		38									
	2	2018	Total	181	0	181	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	15	15	16	15	16		90									
	2	2019	NAVY	63	0	63					A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	63								
	2	2019	ARMY (+)	3	0	3					A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3								
	2	2019	FMS (+)	74	0	74					A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	74								
	2	2019	Total	140	0	140					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	140								
1.1.3) All Up Round - Block II Plus ⁽³⁾																																						
	3	2017	NAVY	50	0	50	-	-	-	-	-	5	5	5	5	5	5	5	5	2	2	1							0									
	3	2017	AF (+)	50	0	50	-	-	-	-	-	5	5	5	5	5	5	5	5	2	2	1							0									
	3	2017	Total	100	0	100	-	-	-	-	-	10	10	10	10	10	10	10	10	4	4	2	-	-	-	-	-	-	-	0								
	3	2018	NAVY	12	0	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1		5									
	3	2018	AF (+)	75	0	75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	6	6	7	6	6	7		30									
	3	2018	FMS (+)	74	0	74	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	6	6	6	6	7	6		31									
	3	2018	Total	161	0	161	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	13	13	14	13	14	14		66									
	3	2019	NAVY	8	0	8					A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8									
	3	2019	AF (+)	80	0	80					A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	80									
	3	2019	FMS (+)	50	0	50					A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	50									
	3	2019	Total	138	0	138					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	138									
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP								

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Exhibit P-21, Production Schedule: PB 2019 Navy																				Date: February 2018													
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2										P-1 Line Item Number / Title: 2209 / Sidewinder										Item Number / Title [DODIC]: 1 / SIDEWINDER BLOCK II													
Cost Elements <i>(Units in Each)</i>							Fiscal Year 2021										Fiscal Year 2022												BALANCE				
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEP PRIOR TO 1 OCT 2020	BAL DUE AS OF 1 OCT				Calendar Year 2021										Calendar Year 2022													
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL		AUG	SEP		
1.1.1) All Up Round - Block II ⁽¹⁾																																	
Prior Years Deliveries: 342																																	
	1	2015	NAVY	102	102	0																											
	1	2015	AF ^(‡)	266	266	0																											
	1	2015	FMS ^(‡)	102	102	0																											
	1	2015	Total	470	470	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	1	2016	NAVY	165 ⁽¹⁵⁾	165	0																											
	1	2016	ARMY ^(‡)	5	5	0																											
	1	2016	AF ^(‡)	471	471	0																											
	1	2016	FMS ^(‡)	48	48	0																											
	1	2016	Total	689	689	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	1	2017	NAVY	65	65	0																											
	1	2017	AF ^(‡)	160	160	0																											
	1	2017	FMS ^(‡)	120	120	0																											
	1	2017	Total	345	345	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	1	2018	NAVY	133	66	67	11	12	11	11	11	11																					
	1	2018	ARMY ^(‡)	129	65	64	11	10	11	11	11	10																					
	1	2018	AF ^(‡)	171	84	87	14	14	14	15	15	15																					
	1	2018	FMS ^(‡)	230	115	115	20	19	19	19	19	19																					
	1	2018	Total	663	330	333	56	55	55	56	56	55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	1	2019	NAVY	120	0	120	-	-	-	-	-	-	10	10	10	10	10	10	10	10	10	10	10										
	1	2019	ARMY ^(‡)	283	0	283	-	-	-	-	-	-	24	24	24	25	24	24	24	24	23	23	20										
	1	2019	AF ^(‡)	176	0	176	-	-	-	-	-	-	15	15	14	15	15	14	15	15	14												
	1	2019	Total Base	579	0	579	-	-	-	-	-	-	49	49	48	50	49	48	49	49	48	48	48	44	-	-	-	-	-	-			
✓	1	2019	NAVY	1	0	1	-	-	-	-	-	-	1																				
1.1.2) Captive Air Training Missile - Block II ⁽²⁾																																	
Prior Years Deliveries: 156																																	
	2	2015	NAVY	54	54	0																											
	2	2015	ARMY ^(‡)	2	2	0																											
	2	2015	AF ^(‡)	60	60	0																											
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP			

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LI 2209 - Sidewinder
Navy

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Exhibit P-21, Production Schedule: PB 2019 Navy									Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2					P-1 Line Item Number / Title: 2209 / Sidewinder				Item Number / Title [DODIC]: 1 / SIDEWINDER BLOCK II			
MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Year)			Procurement Leadtime (Months)							
		MSR For 2019	1-8-5 For 2019	MAX For 2019	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	Raytheon Missile Systems - Tucson, AZ	300	600	1,400	0	9	16	25	0	5	26	31
2	Raytheon Missile System - Tucson, AZ	300	600	1,400	0	9	13	22	0	5	26	31
3	Raytheon Missile System ⁽¹⁴⁾ - Tucson, AZ	300	600	1,400	0	5	19	24	0	6	25	31

(‡) Delivery rows marked with this symbol indicate that they are funded through a separate Line Item. See the respective components' exhibits for details, including the full delivery schedule.

"A" in the Delivery Schedule indicates the Contract Award Date.

Note: Due to space limitations, quantities in the Exhibit P-21 delivery calendar are truncated and rounded based on the maximum quantity in the calendar as follows. If the maximum quantity is less than or equal to than 9,999, all quantities are shown as each. If the maximum quantity is between 10,000 and 999,999 all quantities are shown in thousands. If the maximum quantity is between 1,000,000 and 999,999,999 all quantities are shown in millions (rounded to the nearest thousand). If the maximum quantity is equal or greater than 1,000,000,000 all quantities are shown in billions (rounded to the nearest million).

Footnotes:

⁽¹⁴⁾ The Manufacturing Production Lead Time after Award has increased 7 months consistent with actual manufacturing schedules in the FY 2016 and 2017 production contract awards.

⁽¹⁵⁾ The FY 2016 FMS All Up Round missile delivery scheduled begins 3 months before USG deliveries with 6 in JAN 2018, 5 in FEB 2018 and 5 in MAR 2018. Due to system limitations these FMS quantities cannot be displayed.

⁽¹⁶⁾ The FY 2016 FMS Captive Air Trianing Missile delivery scheduled begins 3 months before USG deliveries with 10 in JAN 2018, 11 in FEB 2018 and 11 in MAR 2018. Due to system limitations these FMS quantities cannot be displayed.

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy										Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 02: Other Missiles / BSA 2: Tactical Missiles							P-1 Line Item Number / Title: 2230 / JT Standoff Weapon (JSOW)					
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A					Other Related Program Elements: N/A				
Line Item MDAP/MAIS Code: 000												
Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	5,168	-	-	-	-	-	-	-	-	-	-	5,168
Gross/Weapon System Cost (<i>\$ in Millions</i>)	2,267.529	2.232	5.487	1.330	0.000	1.330	0.000	0.000	0.000	0.000	-	2,276.578
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	2,267.529	2.232	5.487	1.330	0.000	1.330	0.000	0.000	0.000	0.000	-	2,276.578
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	2,267.529	2.232	5.487	1.330	0.000	1.330	0.000	0.000	0.000	0.000	-	2,276.578
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Dollars</i>)	225,514.51	-	-	-	-	-	-	-	-	-	-	225,514.51
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

Joint Standoff Weapon (JSOW) is a joint United States Navy (USN)/United States Air Force (USAF) program with the USN as the lead service. The JSOW program provides an air-to-ground glide weapon (AGM-154) capable of attacking a variety of targets during day, night, and adverse weather conditions for use against fixed area targets and moving maritime targets. The JSOW enhances aircraft survivability as compared to alternate interdiction weapon systems by providing the capability for launch aircraft to standoff outside the range of most target area surface-to-air threat systems. The JSOW Global Positioning System (GPS)/Inertial Navigation System (INS) capability allows several target kills per aircraft sortie.

The JSOW baseline BLU-97 variant (AGM-154A) has been integrated on USN (F/A-18C/D/E/F) and USAF (F-16C/D, B-2 and B-52) aircraft. The JSOW BLU-108 (AGM-154B) variant provides an anti-armor/tank capability. The JSOW unitary variant (AGM-154C) utilizes the common airframe of the AGM-154A and AGM-154B variants and incorporates an infrared uncooled seeker with autonomous targeting acquisition. The payload includes a 500 pound class Broach multi-stage warhead. AGM-154C was approved for Low Rate Initial Production (LRIP) on 26 June 2003. Full Rate Production (FRP) of the AGM-154C began in December 2004. A Network Enabled Weapon (NEW) moving maritime target capability has been incorporated in JSOW-C production units (AGM-154C-1 variant) starting with the FY 2009 procurement. The AGM-154-C-1 units retain the basic AGM-154C capability against fixed land targets.

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy								Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 02: Other Missiles / BSA 2: Tactical Missiles						P-1 Line Item Number / Title: 2230 / JT Standoff Weapon (JSOW)				
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A			Other Related Program Elements: N/A				
Line Item MDAP/MAIS Code: 000										
Exhibits Schedule					Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	1 / AGM - 154 C-1	P-5a, P-21			5,168 / 2,267.529	- / 2.232	- / 5.487	- / 1.330	- / 0.000	- / 1.330
P-40	Total Gross/Weapon System Cost				5,168 / 2,267.529	- / 2.232	- / 5.487	- / 1.330	- / 0.000	- / 1.330
*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.										
Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.										

Justification:

FY 2019 funding is required for Telemetry Instrumentation Kit (TIK) 2.0 component assembly certification. TIKs are necessary to support the life cycle of the weapon system; including fleet training events, joint and fleet exercises and Tactics, Techniques and Procedure (TTP) development.

The FY 2019 funding request was reduced by \$0.001 million to reflect the Department of Navy's effort to support the Office of Management and Budget directed reforms for Efficiency and Effectiveness that include a lean, accountable, more efficient government.

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Exhibit P-5, Cost Analysis: PB 2019 Navy												Date: February 2018						
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2						P-1 Line Item Number / Title: 2230 / JT Standoff Weapon (JSOW)						Item Number / Title [DODIC]: 1 / AGM - 154 C-1						
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:								
Resource Summary				Prior Years		FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total				
Procurement Quantity <i>(Units in Each)</i>				5,168		-		-		-		-		-				
Gross/Weapon System Cost <i>(\$ in Millions)</i>				2,267.529		2.232		5.487		1.330		0.000		1.330				
Less PY Advance Procurement <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Net Procurement (P-1) <i>(\$ in Millions)</i>				2,267.529		2.232		5.487		1.330		0.000		1.330				
Plus CY Advance Procurement <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Total Obligation Authority <i>(\$ in Millions)</i>				2,267.529		2.232		5.487		1.330		0.000		1.330				
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)																		
Initial Spares <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Gross/Weapon System Unit Cost <i>(\$ in Dollars)</i>				438,763.35		-		-		-		-		-				
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
Flyaway - MISSILE Cost																		
Recurring Cost																		
1.1.1) (JS103) All UP ROUND (AUR) ^(†)	325,099.22	3,185	1,035.441	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.1.2) (JS113) CONTRACTOR (DATA)	-	-	16.753	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.1.3) (JS240) PRODUCTION ACCEPTANCE TEST & EVAL	-	-	30.342	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.1.4) (JS090) ECO	-	-	56.586	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.1.5) (JS250) OBSOLESCENCE	-	-	26.337	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Recurring Cost	-	-	1,165.459	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Flyaway - MISSILE Cost	-	-	1,165.459	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Support - PROCUREMENT SUPPORT - MISSILE Cost																		
2.1) (JS593) COMMAND & LAUNCH /ST&E/ MISSION/SW	-	-	60.629	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.2) (JS573) CONTAINERS	-	-	36.995	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.3) (JS833) GIH PRODUCTION SUPPORT	-	-	87.140	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Exhibit P-5, Cost Analysis: PB 2019 Navy												Date: February 2018						
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2						P-1 Line Item Number / Title: 2230 / JT Standoff Weapon (JSOW)						Item Number / Title [DODIC]: 1 / AGM - 154 C-1						
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:								
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
2.4) (JS503) SPECIAL TOOLING & TEST EQUIPMENT (ST&TE)	-	-	72.013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.5) (JS895) TELEMETRY ⁽¹⁾	-	-	16.721	-	-	2.232	-	-	5.487	-	-	1.330	-	-	-	-	-	1.330
2.6) (JS980) PRODUCTION LINE SHUTDOWN	-	-	5.500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Support - PROCUREMENT SUPPORT - MISSILE Cost	-	-	278.998	-	-	2.232	-	-	5.487	-	-	1.330	-	-	-	-	-	1.330
Support - FLEET SUPPORT - MISSILE Cost																		
3.1) (JS973) INTEGRATED LOGISTICS SUPPORT (ILS)	-	-	6.779	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3.2) (JS300) CAPTIVE AIR TRAINING MISSILE (CATM)	-	-	12.068	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Support - FLEET SUPPORT - MISSILE Cost	-	-	18.847	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Support - All Prior Years Cost																		
4.1) All Prior Years ⁽²⁾	405,559.76	1,983	804.225	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Support - All Prior Years Cost	-	-	804.225	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost	438,763.35	5,168	2,267.529	-	-	2.232	-	-	5.487	-	-	1.330	-	-	0.000	-	-	1.330
Remarks: Totals may not add due to rounding.																		
(†) indicates the presence of a P-5a																		
Footnotes: ⁽¹⁾ Cost Code JS895 Telemetry provides support of Telemetry Instrumentation Kits (TIKs) and TIK 2.0 effort. TIKs are used to record flight data, and also has a flight termination system for range safety. TIKs are necessary to support training events and meet platform requirements. FY 2018 funding increases to complete TIK NRE and TIK 2.0 procurement. ⁽²⁾ Prior year values contain costs for all JSOW variants (AGM-154A, AGM-154B, AGM-154C, and AGM-154C-1).																		

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Exhibit P-5a, Procurement History and Planning: PB 2019 Navy									Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2			P-1 Line Item Number / Title: 2230 / JT Standoff Weapon (JSOW)						Item Number / Title [DODIC]: 1 / AGM - 154 C-1			
Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$)	Specs Avail Now?	Date Revision Available	RFP Issue Date
1.1.1) (JS103) All UP ROUND (AUR) ^(†)		2015	Raytheon Missile System / Tucson, AZ	SS / FFP	NAVAIR	Jul 2015	Nov 2016	200	333,440.00	Y		Nov 2014

^(†) indicates the presence of a P-21

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Exhibit P-21, Production Schedule: PB 2019 Navy																			Date: February 2018																	
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2							P-1 Line Item Number / Title: 2230 / JT Standoff Weapon (JSOW)												Item Number / Title [DODIC]: 1 / AGM - 154 C-1																	
Cost Elements <i>(Units in Each)</i>							Fiscal Year 2015												Fiscal Year 2016												B A L A N C E					
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2014	BAL DUE AS OF 1 OCT	Calendar Year 2015												Calendar Year 2016																	
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P						
1.1.1) (JS103) All UP ROUND (AUR)																																				
Prior Years Deliveries: 2985																																				
	1	2015	NAVY	200 ⁽³⁾	0	200													A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	200
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P						

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Exhibit P-21, Production Schedule: PB 2019 Navy																				Date: February 2018												
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2										P-1 Line Item Number / Title: 2230 / JT Standoff Weapon (JSOW)										Item Number / Title [DODIC]: 1 / AGM - 154 C-1												
Cost Elements <i>(Units in Each)</i>							Fiscal Year 2017										Fiscal Year 2018													BALANCE		
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2016	BAL DUE AS OF 1 OCT	Calendar Year 2017										Calendar Year 2018															
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG		SEP	
1.1.1) (JS103) All UP ROUND (AUR)																																
Prior Years Deliveries: 2985																																
	1	2015	NAVY	200 ⁽³⁾	0	200	-	18	19	38	25	-	12	14	14	28	14	-	-	-	18											0
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		

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Exhibit P-21, Production Schedule: PB 2019 Navy				Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2			P-1 Line Item Number / Title: 2230 / JT Standoff Weapon (JSOW)			Item Number / Title [DODIC]: 1 / AGM - 154 C-1	

MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Year)			Procurement Leadtime (Months)							
		MSR For 2019	1-8-5 For 2019	MAX For 2019	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	Raytheon Missile System - Tucson, AZ	200	420	720	12	6	17	23	0	10	16	26

"A" in the Delivery Schedule indicates the Contract Award Date.

Note: Due to space limitations, quantities in the Exhibit P-21 delivery calendar are truncated and rounded based on the maximum quantity in the calendar as follows. If the maximum quantity is less than or equal to than 9,999, all quantities are shown as each. If the maximum quantity is between 10,000 and 999,999 all quantities are shown in thousands. If the maximum quantity is between 1,000,000 and 999,999,999 all quantities are shown in millions (rounded to the nearest thousand). If the maximum quantity is equal or greater than 1,000,000,000 all quantities are shown in billions (rounded to the nearest million).

Footnotes:

⁽³⁾ Final deliveries were delayed due to GFE delays. Received last 18 deliveries 11 Dec 2017.

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy										Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 02: Other Missiles / BSA 2: Tactical Missiles							P-1 Line Item Number / Title: 2234 / Standard Missile					
ID Code (A=Service Ready, B=Not Service Ready): A				Program Elements for Code B Items: N/A				Other Related Program Elements: N/A				
Line Item MDAP/MAIS Code: 000												
Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	556	125	125	125	-	125	125	125	125	125	369	1,800
Gross/Weapon System Cost (<i>\$ in Millions</i>)	2,258.331	491.212	546.083	490.210	0.000	490.210	488.631	490.739	489.059	489.310	1,667.869	7,411.444
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	83.789	83.623	83.499	83.343	-	334.254
Net Procurement (P-1) (<i>\$ in Millions</i>)	2,258.331	491.212	546.083	490.210	0.000	490.210	404.842	407.116	405.560	405.967	1,667.869	7,077.190
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	125.683	-	125.683	96.085	66.696	45.790	-	-	334.254
Total Obligation Authority (<i>\$ in Millions</i>)	2,258.331	491.212	546.083	615.893	0.000	615.893	500.927	473.812	451.350	405.967	1,667.869	7,411.444
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Thousands</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Thousands</i>)	4,061.746	3,929.696	4,368.664	3,921.680	-	3,921.680	3,909.048	3,925.912	3,912.472	3,914.480	4,519.970	4,117.469
<p>Description:</p> <p>The SM-6 Block I provides an extended range engagement capability to provide the air superiority and the umbrella of protection for joint U.S. forces and allies against the full spectrum of manned-fixed and rotary-winged aircraft, unmanned aerial vehicles, and land attack and anti-ship cruise missiles in flight. This capability contributes significantly to the continuous protection of forward deployed ground maneuver forces as well as theater rear assets.</p> <p>The SM-6 is the primary extended range air defense weapon for AEGIS cruisers and destroyers and potentially future combatants.</p> <p>[P5 / FE002 SM-6 Block IA ECP]: Production cut-in decision for the Engineering Change Proposal (ECP) for the SM-6 Block IA configuration was included in the FY 2015 SM-6 Production Contract. The ECP cost line shown in FY1 2017 is additional cost required to implement the ECP and procure the maximum number of SM-6 Block IA All Up Rounds (AURs), limited by maximum production rate. The Navy will procure SM-6 Block I and SM-6 Block IA missiles, not to exceed the quantities shown here. In FY 2017, the Cost Element 1.1.1 (FE002 SM-6 Block I All Up Round) combined with 1.1.2 (FE002 SM-6 Block IA ECP) recurring hardware costs procure both configurations of SM-6. The SM-6 Block IA ECP is planned to be at FRP procurement rates starting in FY 2018. In FY 2018 and out, the funding from Cost Elements 1.1.1 and 1.1.2 have been combined and realigned to Cost Element 1.1.3 (SM-6 Block I/IA All Up Round Missile) and the annual unit cost is a blended unit cost across SM-6 BLK I and BLK IA variants. Further detail can be provided at a higher classification level.</p> <p>[P5 / SM-6 Block I/IA All Up Round Missile]: The budget reflects a funding profile for a proposed five-year Multiyear Procurement beginning in FY 2019 and completing in FY 2023. Advance Procurement information is provided in exhibit 2234C.</p>												

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy								Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 02: Other Missiles / BSA 2: Tactical Missiles						P-1 Line Item Number / Title: 2234 / Standard Missile				
ID Code (A=Service Ready, B=Not Service Ready): A				Program Elements for Code B Items: N/A			Other Related Program Elements: N/A			
Line Item MDAP/MAIS Code: 000										
Exhibits Schedule					Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	1 / STANDARD MISSILE	P-5a, P-21			556 / 2,258.331	125 / 491.212	125 / 546.083	125 / 490.210	- / 0.000	125 / 490.210
P-40	Total Gross/Weapon System Cost				556 / 2,258.331	125 / 491.212	125 / 546.083	125 / 490.210	- / 0.000	125 / 490.210
*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.										
Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.										
<p>Justification:</p> <p>FY 2019 provides funding to procure 125 SM-6 Block I and SM-6 Block IA missiles to support warfighter requirements, as well as, required support costs such as production engineering, Diminishing Manufacturing Sources (DMS), containers, fleet documentation, and install/checkout equipment.</p> <p>The budget reflects a funding profile for a proposed five-year Multiyear Procurement beginning in FY 2019 and completing in FY 2023. Advance Procurement information is provided in exhibit 2234C (P10).</p> <p>The FY 2019 funding request was reduced by \$3.785 million to reflect the Department of Navy's effort to support the Office of Management and Budget directed reforms for Efficiency and Effectiveness that include a lean, accountable, more efficient government.</p> <p>In FY 2018 and out, cost element 1.1.3)(SM-6 Block I/IA All Up Round (AUR) Missile) captures the aggregate missile cost for SM-6 BLKI and IA. The Navy will procure the maximum number of SM-6 Block IA All Up Rounds (AURs), limited by maximum production rate. The Navy will procure a combination of SM-6 Block I and SM-6 Block IA missiles not to exceed the quantities requested. Final procurement quantities for FY 2017 and FY 2018 will be determined upon completion of contract negotiations.</p>										

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Exhibit P-5, Cost Analysis: PB 2019 Navy												Date: February 2018						
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2						P-1 Line Item Number / Title: 2234 / Standard Missile						Item Number / Title [DODIC]: 1 / STANDARD MISSILE						
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:								
Resource Summary				Prior Years		FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total				
Procurement Quantity (Units in Each)				556		125		125		125		-		125				
Gross/Weapon System Cost (\$ in Millions)				2,258.331		491.212		546.083		490.210		0.000		490.210				
Less PY Advance Procurement (\$ in Millions)				-		0.000		-		-		-		-				
Net Procurement (P-1) (\$ in Millions)				2,258.331		491.212		546.083		490.210		0.000		490.210				
Plus CY Advance Procurement (\$ in Millions)				-		-		-		125.683		-		125.683				
Total Obligation Authority (\$ in Millions)				2,258.331		491.212		546.083		615.893		0.000		615.893				
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)																		
Initial Spares (\$ in Millions)				-		-		-		-		-		-				
Gross/Weapon System Unit Cost (\$ in Thousands)				4,061.746		3,929.696		4,368.664		3,921.680		-		3,921.680				
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Hardware - SM-6 Cost																		
Recurring Cost																		
1.1.1) FE002 SM-6 Block I All Up Round Missile ^(†)	2,899.772	556	1,612.273	2,209.528	125	276.191	-	-	-	-	-	-	-	-	-	-	-	-
1.1.2) FE002 SM-6 Block IA ECP ⁽¹⁾	-	-	199.789	-	-	146.052	-	-	-	-	-	-	-	-	-	-	-	-
1.1.3) SM-6 Block I/IA All Up Round Missile ^(†) ⁽²⁾	-	-	-	-	-	-	3,794.480	125	474.310	3,331.056	125	416.382	-	-	-	3,331.056	125	416.382
1.1.4) FE002 Canister - SM-6 Block I/IA (Mk 21 Mod 3/Mod 4) ^(†) ⁽³⁾	243.905	556	135.611	211.672	125	26.459	219.424	125	27.428	230.928	125	28.866	-	-	-	230.928	125	28.866
1.1.5) FE002 Production Start Up	-	-	28.102	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Recurring Cost	-	-	1,975.775	-	-	448.702	-	-	501.738	-	-	445.248	-	-	-	-	-	445.248
Subtotal: Hardware - SM-6 Cost	-	-	1,975.775	-	-	448.702	-	-	501.738	-	-	445.248	-	-	-	-	-	445.248
Support - SM-6 Cost Cost																		
2.1) FE831 Production Engineering/Support	-	-	142.846	-	-	25.805	-	-	26.904	-	-	27.669	-	-	-	-	-	27.669
2.2) FE851 Component Improvement	-	-	47.800	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Exhibit P-5, Cost Analysis: PB 2019 Navy													Date: February 2018					
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2							P-1 Line Item Number / Title: 2234 / Standard Missile						Item Number / Title [DODIC]: 1 / STANDARD MISSILE					
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:								
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
2.3) FE851 Diminishing Manufacturing Sources (DMS)	-	-	37.531	-	-	12.719	-	-	13.380	-	-	13.156	-	-	-	-	-	13.156
2.4) FE951 Tools and Test Equipment	-	-	13.968	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.5) FE958 Containers	-	-	1.368	-	-	0.223	-	-	0.228	-	-	0.232	-	-	-	-	-	0.232
2.6) FE981 ILS/Fleet Documentation	-	-	5.178	-	-	0.644	-	-	0.657	-	-	0.670	-	-	-	-	-	0.670
2.7) FE971 Install/Checkout Equip/Training Material	-	-	32.762	-	-	3.119	-	-	3.176	-	-	3.235	-	-	-	-	-	3.235
Subtotal: Support - SM-6 Cost Cost	-	-	281.453	-	-	42.510	-	-	44.345	-	-	44.962	-	-	-	-	-	44.962
Support - Other Cost																		
3.1) WAXXX Acquisition Workforce Fund - 2009	-	-	1.103	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Support - Other Cost	-	-	1.103	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost	4,061.746	556	2,258.331	3,929.696	125	491.212	4,368.664	125	546.083	3,921.680	125	490.210	-	-	0.000	3,921.680	125	490.210

(t) indicates the presence of a P-5a

Footnotes:

(1) Production cut-in decision for the Engineering Change Proposal (ECP) for the SM-6 Block IA configuration was included in the FY 2015 SM-6 Production Contract. The ECP cost line shown in FY 2017 is additional cost required to implement the ECP and procure the maximum number of SM-6 Block IA All Up Rounds (AURs), limited by maximum production rate. The Navy will procure SM-6 Block I and SM-6 Block IA missiles, not to exceed the quantities shown here. Further detail can be provided at a higher classification level.

(2) FY 2017 calculated unit cost is based on the SM-6 Block I AUR only. FY 2018 combined cost code 1.1.1) FE002 SM-6 Block I All Up Round Missile and 1.1.2) FE002 SM-6 Block IA ECP into 1.1.3) SM-6 Block I/IA All Up Round Missile to provide the blended costs of the Block I and Block IA missiles. The Navy remains committed to procuring the maximum number of SM-6 Block IAs, limited by maximum production rate. The SM-6 Block IAs are more technologically advanced than the SM-6 Block I and therefore have higher unit cost. The budget reflects a funding profile for a proposed five-year Multiyear Procurement beginning in FY 2019 and completing in FY 2023.

(3) Canisters are not procured through the prime contractor and are not included in the Multiyear Procurement Contract. FY 2019 increase due to the mix of missiles being procured. Mod 3 Canisters are procured for both BLKI and BLKIA, but require additional cost for parts and engineering to convert the BLKI Mod 3 Canisters into BLKIA Mod 4 canisters. The increase in FY 2019 reflects the additional procurement of BLKIAs.

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Exhibit P-5a, Procurement History and Planning: PB 2019 Navy								Date: February 2018				
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2			P-1 Line Item Number / Title: 2234 / Standard Missile					Item Number / Title [DODIC]: 1 / STANDARD MISSILE				
Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$ K)	Specs Avail Now?	Date Revision Available	RFP Issue Date
1.1.1) FE002 SM-6 Block I All Up Round Missile ^(†)		2013	Raytheon CO . / Tucson, AZ	SS / FP	NAVSEA	Sep 2013	Apr 2015	89	2,762.551	Y		
1.1.1) FE002 SM-6 Block I All Up Round Missile ^(†)		2014	Raytheon CO .. / Tucson, AZ	SS / FP	NAVSEA	Jun 2014	Apr 2016	93	2,570.151	Y		
1.1.1) FE002 SM-6 Block I All Up Round Missile ^(†)		2015 ⁽⁴⁾	Raytheon CO / Tucson AZ	SS / FP	NAVSEA	Apr 2015	Apr 2017	95	2,535.000	Y		
1.1.1) FE002 SM-6 Block I All Up Round Missile ^(†)		2016	Raytheon CO / Tucson AZ	SS / FP	NAVSEA	Apr 2016	Apr 2018	101	2,532.000	Y		
1.1.1) FE002 SM-6 Block I All Up Round Missile ^(†)		2017	Raytheon CO ... / Tucson AZ	SS / FP	NAVSEA	Apr 2018	Apr 2019	125	2,209.528	Y		
1.1.3) SM-6 Block I/IA All Up Round Missile ^(†)		2018	Raytheon CO ⁽⁵⁾ / Tucson AZ	SS / FP	NAVSEA	Apr 2018	Apr 2020	117	3,771.094	Y		
1.1.3) SM-6 Block I/IA All Up Round Missile ^(†)	✓	2018	Raytheon CO ⁽⁵⁾ / Tucson AZ	SS / FP	NAVSEA	Apr 2018	Apr 2020	8	4,136.500	Y		
1.1.3) SM-6 Block I/IA All Up Round Missile ^(†)		2019	Raytheon CO ⁽⁵⁾ / Tucson AZ	SS / FP	NAVSEA	Apr 2019	Apr 2021	125	3,331.056	Y		
1.1.4) FE002 Canister - SM-6 Block I/IA (Mk 21 Mod 3/Mod 4) ^(†)		2014	BAE-FY2014 / Minneapolis, MN	SS / FP	NAVSEA	Dec 2013	Aug 2015	93	216.553	Y		
1.1.4) FE002 Canister - SM-6 Block I/IA (Mk 21 Mod 3/Mod 4) ^(†)		2015	BAE / Minneapolis, MN	SS / FP	NAVSEA	Mar 2015	May 2016	95	218.920	Y		
1.1.4) FE002 Canister - SM-6 Block I/IA (Mk 21 Mod 3/Mod 4) ^(†)		2016	BAE / Minneapolis, MN	SS / FP	NAVSEA	Mar 2016	May 2017	101	253.099	Y		
1.1.4) FE002 Canister - SM-6 Block I/IA (Mk 21 Mod 3/Mod 4) ^(†)		2017	BAE / Minneapolis, MN	SS / FP	NAVSEA	Mar 2017	May 2018	125	211.672	Y		
1.1.4) FE002 Canister - SM-6 Block I/IA (Mk 21 Mod 3/Mod 4) ^(†)		2018	TBD / TBD	SS / FP	NAVSEA	Mar 2018	May 2019	117	216.342	Y		
1.1.4) FE002 Canister - SM-6 Block I/IA (Mk 21 Mod 3/Mod 4) ^(†)	✓	2018	TBD / TBD	SS / FP	NAVSEA	Mar 2018	May 2019	8	264.500	Y		
1.1.4) FE002 Canister - SM-6 Block I/IA (Mk 21 Mod 3/Mod 4) ^(†)		2019	TBD / TBD	SS / FP	NAVSEA	Mar 2019	May 2020	125	230.928	Y		
(†) indicates the presence of a P-21												
Footnotes:												

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Exhibit P-5a, Procurement History and Planning: PB 2019 Navy		Date: February 2018
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2	P-1 Line Item Number / Title: 2234 / Standard Missile	Item Number / Title [DODIC]: 1 / STANDARD MISSILE

⁽⁴⁾ Production cut-in decision for the Engineering Change Proposal (ECP) for the SM-6 Block IA configuration was included in the FY 2015 SM-6 Production Contract. The ECP cost line shown in FY17 is additional cost required to implement the ECP and procure the maximum number of SM-6 Block IA All Up Rounds (AURs), limited by maximum production rate. The Navy will procure SM-6 Block I and SM-6 Block IA missiles, not to exceed the quantities shown here. Further detail can be provided at a higher classification level.

⁽⁵⁾ MSR reflects a ramp up to a stable production rate for SM-6 Block IA.

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Exhibit P-21, Production Schedule: PB 2019 Navy																			Date: February 2018																			
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2							P-1 Line Item Number / Title: 2234 / Standard Missile												Item Number / Title [DODIC]: 1 / STANDARD MISSILE																			
Cost Elements (Units in Each)							Fiscal Year 2013										Fiscal Year 2014										BALANCE											
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2012	BAL DUE AS OF 1 OCT	Calendar Year 2013										Calendar Year 2014																					
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY		JUN	JUL	AUG	SEP							
1.1.1) FE002 SM-6 Block I All Up Round Missile																																						
Prior Years Deliveries: 178																																						
	3	2013	NAVY	89	0	89											A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	89						
	1	2014	NAVY	93	0	93																					A	-	-	-	-	-	-	-	-	-	-	93
	2	2015	NAVY	95 ⁽⁶⁾	0	95																															95	
	2	2016	NAVY	101	0	101																															101	
	4	2017	NAVY	125	0	125																															125	
1.1.3) SM-6 Block I/IA All Up Round Missile ⁽²⁾																																						
	5	2018	NAVY	117	0	117																															117	
✓	5	2018	NAVY	8	0	8																															8	
	5	2019	NAVY	125	0	125																															125	
1.1.4) FE002 Canister - SM-6 Block I/IA (Mk 21 Mod 3/Mod 4) ⁽³⁾																																						
Prior Years Deliveries: 267																																						
	7	2014	NAVY	93	0	93											A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	93						
	8	2015	NAVY	95	0	95																															95	
	8	2016	NAVY	101	0	101																															101	
	8	2017	NAVY	125	0	125																															125	
	6	2018	NAVY	117	0	117																															117	
✓	6	2018	NAVY	8	0	8																															8	
	6	2019	NAVY	125	0	125																															125	
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP								

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Exhibit P-21, Production Schedule: PB 2019 Navy																							Date: February 2018										
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2										P-1 Line Item Number / Title: 2234 / Standard Missile													Item Number / Title [DODIC]: 1 / STANDARD MISSILE										
Cost Elements (Units in Each)							Fiscal Year 2015												Fiscal Year 2016												BALANCE		
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2014	BAL DUE AS OF 1 OCT	Calendar Year 2015												Calendar Year 2016														
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP			
1.1.1) FE002 SM-6 Block I All Up Round Missile																																	
Prior Years Deliveries: 178																																	
	3	2013	NAVY	89	0	89	-	-	-	-	-	-	7	7	7	7	7	7	8	8	8	8	8								0		
	1	2014	NAVY	93	0	93	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	7	7	8	8	8	48			
	2	2015	NAVY	95 ⁽⁶⁾	0	95							A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	95			
	2	2016	NAVY	101	0	101																				A	-	-	-	-	-	-	101
	4	2017	NAVY	125	0	125																											125
1.1.3) SM-6 Block I/IA All Up Round Missile ⁽²⁾																																	
	5	2018	NAVY	117	0	117																											117
✓	5	2018	NAVY	8	0	8																											8
	5	2019	NAVY	125	0	125																											125
1.1.4) FE002 Canister - SM-6 Block I/IA (Mk 21 Mod 3/Mod 4) ⁽³⁾																																	
Prior Years Deliveries: 267																																	
	7	2014	NAVY	93	0	93	-	-	-	-	-	-	-	-	-	10	12	12	12	12	12	12	11								0		
	8	2015	NAVY	95	0	95						A	-	-	-	-	-	-	-	-	-	-	-	-	-	7	8	8	8	56			
	8	2016	NAVY	101	0	101																				A	-	-	-	-	-	-	101
	8	2017	NAVY	125	0	125																											125
	6	2018	NAVY	117	0	117																											117
✓	6	2018	NAVY	8	0	8																											8
	6	2019	NAVY	125	0	125																											125
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP			

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Exhibit P-21, Production Schedule: PB 2019 Navy																				Date: February 2018														
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2										P-1 Line Item Number / Title: 2234 / Standard Missile										Item Number / Title [DODIC]: 1 / STANDARD MISSILE														
Cost Elements (Units in Each)							Fiscal Year 2017										Fiscal Year 2018										BALANCE							
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2016	BAL DUE AS OF 1 OCT	Calendar Year 2017										Calendar Year 2018																	
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY		JUN	JUL	AUG	SEP			
1.1.1) FE002 SM-6 Block I All Up Round Missile																																		
Prior Years Deliveries: 178																																		
	3	2013	NAVY	89	89	0																									0			
	1	2014	NAVY	93	45	48	8	8	8	8	8	8																			0			
	2	2015	NAVY	95 ⁽⁶⁾	0	95	-	-	-	-	-	-	7	8	8	8	8	8	8	8	8	8	8							0				
	2	2016	NAVY	101	0	101	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	8	8	8	8	8	53					
	4	2017	NAVY	125	0	125																A -	-	-	-	-	-	-					125	
1.1.3) SM-6 Block I/IA All Up Round Missile ⁽²⁾																																		
	5	2018	NAVY	117	0	117																A -	-	-	-	-	-	-					117	
✓	5	2018	NAVY	8	0	8																A -	-	-	-	-	-	-					8	
	5	2019	NAVY	125	0	125																										125		
1.1.4) FE002 Canister - SM-6 Block I/IA (Mk 21 Mod 3/Mod 4) ⁽³⁾																																		
Prior Years Deliveries: 267																																		
	7	2014	NAVY	93	93	0																									0			
	8	2015	NAVY	95	39	56	8	8	8	8	8	8																			0			
	8	2016	NAVY	101	0	101	-	-	-	-	-	-	7	8	8	8	8	8	9	9	9	9	9	9							0			
	8	2017	NAVY	125	0	125						A -	-	-	-	-	-	-	-	-	-	-	-	-	10	10	10	10	10	75				
	6	2018	NAVY	117	0	117																A -	-	-	-	-	-	-	-					117
✓	6	2018	NAVY	8	0	8																A -	-	-	-	-	-	-	-					8
	6	2019	NAVY	125	0	125																									125			
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP				

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Exhibit P-21, Production Schedule: PB 2019 Navy																			Date: February 2018												
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2										P-1 Line Item Number / Title: 2234 / Standard Missile										Item Number / Title [DODIC]: 1 / STANDARD MISSILE											
Cost Elements (Units in Each)							Fiscal Year 2019										Fiscal Year 2020										BALANCE				
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2018	BAL DUE AS OF 1 OCT	Calendar Year 2019										Calendar Year 2020														
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY		JUN	JUL	AUG	SEP
1.1.1) FE002 SM-6 Block I All Up Round Missile																															
Prior Years Deliveries: 178																															
	3	2013	NAVY	89	89	0																									0
	1	2014	NAVY	93	93	0																									0
	2	2015	NAVY	95 ⁽⁶⁾	95	0																									0
	2	2016	NAVY	101	48	53	8	9	9	9	9	9																			0
	4	2017	NAVY	125	0	125	-	-	-	-	-	-	10	10	10	10	10	10	11	11	11	11	11						0		
1.1.3) SM-6 Block I/IA All Up Round Missile ⁽²⁾																															
	5	2018	NAVY	117	0	117	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	9	9	10	10	10	60	
✓	5	2018	NAVY	8	0	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	2	
	5	2019	NAVY	125	0	125						A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	125	
1.1.4) FE002 Canister - SM-6 Block I/IA (Mk 21 Mod 3/Mod 4) ⁽³⁾																															
Prior Years Deliveries: 267																															
	7	2014	NAVY	93	93	0																									0
	8	2015	NAVY	95	95	0																									0
	8	2016	NAVY	101	101	0																									0
	8	2017	NAVY	125	50	75	10	10	11	11	11	11	11																		0
	6	2018	NAVY	117	0	117	-	-	-	-	-	-	9	9	9	10	10	10	10	10	10	10	10	10	10	10					0
✓	6	2018	NAVY	8	0	8	-	-	-	-	-	-	1	1	1	1	1	1	1	1											0
	6	2019	NAVY	125	0	125						A	-	-	-	-	-	-	-	-	-	-	-	-	-	10	10	10	10	10	75
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	

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Exhibit P-21, Production Schedule: PB 2019 Navy																			Date: February 2018												
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2							P-1 Line Item Number / Title: 2234 / Standard Missile												Item Number / Title [DODIC]: 1 / STANDARD MISSILE												
Cost Elements (Units in Each)							Fiscal Year 2021												Fiscal Year 2022												BALANCE
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2020	BAL DUE AS OF 1 OCT	Calendar Year 2021												Calendar Year 2022												
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
1.1.1) SM-6 Block I All Up Round Missile																															
Prior Years Deliveries: 178																															
	3	2013	NAVY		89	89	0																							0	
	1	2014	NAVY		93	93	0																							0	
	2	2015	NAVY		95 ⁽⁶⁾	95	0																							0	
	2	2016	NAVY		101	101	0																							0	
	4	2017	NAVY		125	125	0																							0	
1.1.3) SM-6 Block I/IA All Up Round Missile ⁽²⁾																															
	5	2018	NAVY		117	57	60	10	10	10	10	10	10																	0	
✓	5	2018	NAVY		8	6	2	1	1																					0	
	5	2019	NAVY		125	0	125	-	-	-	-	-	10	10	10	10	10	10	10	11	11	11	11	11					0		
1.1.4) FE002 Canister - SM-6 Block I/IA (Mk 21 Mod 3/Mod 4) ⁽³⁾																															
Prior Years Deliveries: 267																															
	7	2014	NAVY		93	93	0																							0	
	8	2015	NAVY		95	95	0																							0	
	8	2016	NAVY		101	101	0																							0	
	8	2017	NAVY		125	125	0																							0	
	6	2018	NAVY		117	117	0																							0	
✓	6	2018	NAVY		8	8	0																							0	
	6	2019	NAVY		125	50	75	10	10	11	11	11	11	11																0	
								OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP

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Exhibit P-21, Production Schedule: PB 2019 Navy			Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2		P-1 Line Item Number / Title: 2234 / Standard Missile			Item Number / Title [DODIC]: 1 / STANDARD MISSILE

MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Year)			Procurement Leadtime (Months)							
		MSR For 2019	1-8-5 For 2019	MAX For 2019	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	Raytheon CO .. - Tucson, AZ	125	125	200	3	3	22	25	3	3	22	25
2	Raytheon CO - Tucson AZ	125	125	200	3	3	24	27	3	3	24	27
3	Raytheon CO . - Tucson, AZ	125	125	200	3	3	19	22	3	3	19	22
4	Raytheon CO ... - Tucson AZ	125	125	200	3	3	12	15	3	3	12	15
5	Raytheon CO ⁽⁵⁾ - Tucson AZ	125	125	200	3	3	24	27	3	3	24	27
6	TBD - TBD	125	125	200	3	8	14	22	3	8	14	22
7	BAE-FY2014 - Minneapolis, MN	125	125	200	3	8	20	28	3	8	20	28
8	BAE - Minneapolis, MN	125	125	200	3	8	14	22	3	8	14	22

"A" in the Delivery Schedule indicates the Contract Award Date.

Note: Due to space limitations, quantities in the Exhibit P-21 delivery calendar are truncated and rounded based on the maximum quantity in the calendar as follows. If the maximum quantity is less than or equal to than 9,999, all quantities are shown as each. If the maximum quantity is between 10,000 and 999,999 all quantities are shown in thousands. If the maximum quantity is between 1,000,000 and 999,999,999 all quantities are shown in millions (rounded to the nearest thousand). If the maximum quantity is equal or greater than 1,000,000,000 all quantities are shown in billions (rounded to the nearest million).

Footnotes:

⁽⁵⁾ MSR reflects a ramp up to a stable production rate for SM-6 Block IA.

⁽⁶⁾ Production cut-in decision for the Engineering Change Proposal (ECP) for the SM-6 Block IA configuration was included in the FY 2015 SM-6 Production Contract. The ECP cost line shown in FY 2017 is additional cost required to implement the ECP and procure the maximum number of SM-6 Block IA All Up Rounds (AURs), limited by maximum production rate. The Navy will procure SM-6 Block I and SM-6 Block IA missiles, not to exceed the quantities shown here. Further detail can be provided at a higher classification level.

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Exhibit P-40, Advance Procurement Budget Line Item Justification: PB 2019 Navy	Date: February 2018
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Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 02: Other Missiles / BSA 2: Tactical Missiles	P-1 Line Item Number / Title: 2234 / Standard Missile
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Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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Line Item MDAP/MAIS Code: 000

Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Gross/Weapon System Cost (\$ in Millions)	-	-	-	125.683	-	125.683	96.085	66.696	45.790	-	-	334.254
Net Procurement (P-1) (\$ in Millions)	-	-	-	125.683	-	125.683	96.085	66.696	45.790	-	-	334.254
Total Obligation Authority (\$ in Millions)	-	-	-	125.683	-	125.683	96.085	66.696	45.790	-	-	334.254

Description:

The SM-6 Block I provides an extended range engagement capability to provide the air superiority and the umbrella of protection for joint U.S. forces and allies against the full spectrum of manned-fixed and rotary-winged aircraft, unmanned aerial vehicles, and land attack and anti-ship cruise missiles in flight. This capability contributes significantly to the continuous protection of forward deployed ground maneuver forces as well as theater rear assets. The SM-6 is the primary extended range air defense weapon for AEGIS cruisers and destroyers and potentially future combatants.

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Exhibit P-40, Advance Procurement Budget Line Item Justification: PB 2019 Navy							Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 02: Other Missiles / BSA 2: Tactical Missiles					P-1 Line Item Number / Title: 2234 / Standard Missile				
Program Elements for Code B Items: N/A					Other Related Program Elements: N/A				
Line Item MDAP/MAIS Code: 000									
Exhibits Schedule				Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Exhibit Type	Title*	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-10	1 / STANDARD MISSILE			556 / -	125 / -	125 / -	125 / 125.683	- / -	125 / 125.683
P-40	Total Gross/Weapon System Cost			556 / -	125 / -	125 / -	125 / 125.683	- / -	125 / 125.683
*Title represents the P-10 Title for Advance Procurement.									
Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.									
<p>Justification:</p> <p>The budget reflects a funding profile for a proposed five-year Multiyear Procurement beginning in FY 2019 and completing in FY 2023. The proposed multiyear procurement contracts would provide for the procurement of up to 625 Standard Missile-6 (SM-6) guided missiles. The use of Advanced Procurement provides economic order quantity (EOQ)to reduce the cost of subcontractor effort, material, and components enabling greater production efficiencies and substantial cost savings.</p> <p>Funding covers EOQ in support of the FY 2019-2023 MYP contract. EOQ will fund the procurement of MK72 Booster, MK104 Dual Thrust Rocket Motors (DTRM) and Guidance Sections. Booster is a 26 month lead time due to the unique steel for the case and additional time for mating with a (TVA) Thrust Vector Actuator. The DTRM has a 22 month lead time due to the specialty steel required for manufacturing. The guidance section takes 24 months to deliver due to the lead time in the specialty Circuit Card Assemblies.</p>									

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Exhibit P-10, Advance Procurement Requirements Analysis (page 1 - Budget Funding Justification): PB 2019 Navy					Date: February 2018	
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2		P-1 Line Item Number / Title: 2234 / Standard Missile			P-5 Number / Title: 1 / STANDARD MISSILE	
First System (2019) Award Date: January 2013		First System (2019) Completion Date: January 2013		Interval Between Systems: 0 Months		
STANDARD MISSILE		Production Leadtime <i>(Months)</i>	Prior Years <i>(Each)</i>	FY 2017 <i>(Each)</i>	FY 2018 <i>(Each)</i>	FY 2019 <i>(Each)</i>
Quantity			556	125	125	125
Cost Elements		When Required <i>(Months)</i>	Prior Years <i>(\$ M)</i>	FY 2017 <i>(\$ M)</i>	FY 2018 <i>(\$ M)</i>	FY 2019 <i>(\$ M)</i>
CFE						
FY20 EOQ		0	-	-	-	83.789
FY21 EOQ		0	-	-	-	25.087
FY22 EOQ		0	-	-	-	16.807
<i>Total: CFE</i>			-	-	-	125.683
Total Advance Procurement/Obligation Authority			-	-	-	125.683

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Exhibit P-10, Advance Procurement Requirements Analysis (page 2 - Budget Funding Justification): PB 2019 Navy						Date: February 2018	
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2		P-1 Line Item Number / Title: 2234 / Standard Missile				P-5 Number / Title: 1 / STANDARD MISSILE	
Cost Elements	QPA <i>(Each)</i>	FY 2019					
		Production Leadtime <i>(Months)</i>	Unit Cost <i>(\$ K)</i>	Contract Forecast Date	2019 Qty <i>(Each)</i>	For FY	Total Cost Request <i>(\$ M)</i>
CFE							
FY20 EOQ	0						83.789
FY21 EOQ	0						25.087
FY22 EOQ	0						16.807
Total: CFE							125.683
Total Advance Procurement/Obligation Authority							125.683

Description:
The Advance Procurement (AP) funding provides economic order quantity (EOQ) to reduce the cost of subcontractor effort, material, and components enabling greater production efficiencies and substantial cost.

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy										Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 02: Other Missiles / BSA 2: Tactical Missiles							P-1 Line Item Number / Title: 2238 / Small Diameter Bomb II (SDB II)					
ID Code (A=Service Ready, B=Not Service Ready): B				Program Elements for Code B Items: 0204162N				Other Related Program Elements: 0604329N				
Line Item MDAP/MAIS Code: 439												
Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	90	750	-	750	750	750	750	750	1,160	5,000
Gross/Weapon System Cost (<i>\$ in Millions</i>)	0.000	0.000	20.968	91.272	0.000	91.272	118.461	114.754	117.019	119.502	179.353	761.329
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	0.000	0.000	20.968	91.272	0.000	91.272	118.461	114.754	117.019	119.502	179.353	761.329
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	0.000	0.000	20.968	91.272	0.000	91.272	118.461	114.754	117.019	119.502	179.353	761.329
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	232,977.78	121,696.00	-	121,696.00	157,948.00	153,005.33	156,025.33	159,336.00	154,614.66	152,265.80
<p>Description:</p> <p>Small Diameter Bomb Increment II (SDB II) is an ACAT 1D program providing the warfighter a capability to attack mobile targets in all weather. The Air Force (USAF) is the lead service. SDB II addresses the following warfighter requirements: attack mobile targets; multiple kills per pass; multiple ordnance carriage; all weather operations; near-precision munitions capability; capability against fixed targets; reduced munitions footprint; increased weapons effectiveness; minimized potential for collateral damage; reduced susceptibility of munitions to countermeasures; and a migration path to net centric ops capability.</p> <p>Threshold aircraft is the F-15E for the USAF and F-35B and F-35C for the Department of Navy (DON). Objective aircraft include the F/A-22, B-1, B2, F-117, F-16, B-52, Predator B, F/A-18 E/F. Milestone C was achieved June 2015.</p> <p>The Acquisition Decision Memorandum was signed 4 June 2015. Lots 1 through 3 are Air Force only procurements; Lot 1 awarded 12 June 2015. SDB II will be integrated on F-35B and F-35C using BRU-61 (due to the cancellation of the Joint Miniature Munitions Bomb Rack contract), and on F/A-18 E/F using BRU-55. The F/A-18 E/F Initial Operational Capability (IOC) is planned for FY 2020; F-35 IOC is planned for FY 2022. The DoN SDB II inventory objective is 5,000 weapons.</p>												

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy								Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 02: Other Missiles / BSA 2: Tactical Missiles						P-1 Line Item Number / Title: 2238 / Small Diameter Bomb II (SDB II)				
ID Code (A=Service Ready, B=Not Service Ready): B			Program Elements for Code B Items: 0204162N			Other Related Program Elements: 0604329N				
Line Item MDAP/MAIS Code: 439										
Exhibits Schedule					Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	1 / Small Diameter Bomb II (SDB II)	P-5a, P-21			- / 0.000	- / 0.000	90 / 20.968	750 / 91.272	- / 0.000	750 / 91.272
P-40	Total Gross/Weapon System Cost				- / 0.000	- / 0.000	90 / 20.968	750 / 91.272	- / 0.000	750 / 91.272
<p>*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.</p> <p>Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.</p>										
<p>Justification:</p> <p>FY 2019 provides funding to procure 750 SDB II All Up Rounds (AUR) to support warfighter requirements as well as containers, Government In-house (GIH) production support, software updates, weapon load crew trainers (WLCT), integrated logistics support, and peculiar support equipment.</p> <p>The FY 2019 increase in quantity reflects the joint procurement strategy with the Air Force for the lot 5 contract.</p> <p>Current contract for Production Lots/Service includes the following: Lot 1 - USAF (144) Lot 2 - USAF (250) Lot 3 - USAF (312) Lot 4 - USAF (460) / USN (90) Lot 5 - USAF (300) / USN (750)</p>										

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Exhibit P-5, Cost Analysis: PB 2019 Navy													Date: February 2018								
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2							P-1 Line Item Number / Title: 2238 / Small Diameter Bomb II (SDB II)						Item Number / Title [DODIC]: 1 / Small Diameter Bomb II (SDB II)								
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:											
Resource Summary				Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
Procurement Quantity <i>(Units in Each)</i>				-			-			90			750			-			750		
Gross/Weapon System Cost <i>(\$ in Millions)</i>				0.000			0.000			20.968			91.272			0.000			91.272		
Less PY Advance Procurement <i>(\$ in Millions)</i>				-			-			-			-			-			-		
Net Procurement (P-1) <i>(\$ in Millions)</i>				0.000			0.000			20.968			91.272			0.000			91.272		
Plus CY Advance Procurement <i>(\$ in Millions)</i>				-			-			-			-			-			-		
Total Obligation Authority <i>(\$ in Millions)</i>				0.000			0.000			20.968			91.272			0.000			91.272		
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)																					
Initial Spares <i>(\$ in Millions)</i>				-			-			-			-			-			-		
Gross/Weapon System Unit Cost <i>(\$ in Dollars)</i>				-			-			232,977.78			121,696.00			-			121,696.00		
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																					
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total					
	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)			
Hardware - SDBII Cost																					
Recurring Cost																					
1.1.1) All Up Round (AUR) ^(†)	-	-	-	-	-	-	122,988.89	90	11.069	106,353.33	750	79.765	-	-	-	106,353.33	750	79.765			
Subtotal: Recurring Cost	-	-	-	-	-	-	-	-	11.069	-	-	79.765	-	-	-	-	-	79.765			
Subtotal: Hardware - SDBII Cost	-	-	-	-	-	-	-	-	11.069	-	-	79.765	-	-	-	-	-	79.765			
Hardware - Nonrecurring and Ancillary Equip Cost																					
Non Recurring Cost																					
2.1.1) Containers ⁽¹⁾	-	-	-	-	-	-	-	-	0.369	-	-	2.673	-	-	-	-	-	2.673			
Subtotal: Non Recurring Cost	-	-	-	-	-	-	-	-	0.369	-	-	2.673	-	-	-	-	-	2.673			
Subtotal: Hardware - Nonrecurring and Ancillary Equip Cost	-	-	-	-	-	-	-	-	0.369	-	-	2.673	-	-	-	-	-	2.673			
Support - Procurement Support Cost																					
3.1) GIH Production Support ⁽²⁾	-	-	-	-	-	-	-	-	4.286	-	-	2.861	-	-	-	-	-	2.861			
3.3) Software Updates ⁽³⁾	-	-	-	-	-	-	-	-	0.713	-	-	1.546	-	-	-	-	-	1.546			
Subtotal: Support - Procurement Support Cost	-	-	-	-	-	-	-	-	4.999	-	-	4.407	-	-	-	-	-	4.407			
Support - Fleet Support Cost																					
4.1) Weapon Load Crew Trainers (WLCT)	-	-	-	-	-	-	-	-	0.736	-	-	0.736	-	-	-	-	-	0.736			

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Exhibit P-5, Cost Analysis: PB 2019 Navy													Date: February 2018					
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2							P-1 Line Item Number / Title: 2238 / Small Diameter Bomb II (SDB II)						Item Number / Title [DODIC]: 1 / Small Diameter Bomb II (SDB II)					
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:								
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
4.2) Practical EOD Systems Trainers (PESTs)	-	-	-	-	-	-	-	-	0.122	-	-	-	-	-	-	-	-	-
4.3) Integrated Logistics Support (ILS)	-	-	-	-	-	-	-	-	1.115	-	-	1.137	-	-	-	-	-	1.137
4.4) Peculiar Support Equipment	-	-	-	-	-	-	-	-	2.558	-	-	2.554	-	-	-	-	-	2.554
Subtotal: Support - Fleet Support Cost	-	-	-	-	-	-	-	-	4.531	-	-	4.427	-	-	-	-	-	4.427
Gross/Weapon System Cost	-	-	0.000	-	-	0.000	232,977.78	90	20.968	121,696.00	750	91.272	-	-	0.000	121,696.00	750	91.272

(t) indicates the presence of a P-5a

Footnotes:

(1) The Department of the Navy is buying two-place containers. One container is required for every two SDB II weapons and every two Weapon Load Crew Trainers. As quantity of SDB II increases, so will total cost for containers. Cost reflected is the total cost for these containers. Lots 1-5 (FY 2018 and FY 2019) are competitively priced options to the SDB II EMD contract. Lots 6-11 will be awarded under sole source contract, therefore, prices will be higher.

(2) Government In-House (GIH) Production support is government labor in support of the production of the All Up Round to include engineering and logistics.

(3) Increase in FY 2019 is for software updates to be performed.

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Exhibit P-5a, Procurement History and Planning: PB 2019 Navy									Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2			P-1 Line Item Number / Title: 2238 / Small Diameter Bomb II (SDB II)					Item Number / Title [DODIC]: 1 / Small Diameter Bomb II (SDB II)				
Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty <i>(Each)</i>	Unit Cost <i>(\$)</i>	Specs Avail Now?	Date Revision Available	RFP Issue Date
1.1.1) All Up Round (AUR) ^(†)		2018	Raytheon CO / Tucson AZ	C / FPIF	Eglin AFB, FL	Jan 2018	Jul 2019	90	122,988.89	Y		
1.1.1) All Up Round (AUR) ^(†)		2019 ⁽⁴⁾	Raytheon CO / Tucson AZ	C / FPIF	Eglin AFB, FL	Jan 2019	Jul 2020	750	106,353.33	Y		

^(†) indicates the presence of a P-21

Footnotes:

⁽⁴⁾ Raytheon Missile Systems, Tucson, AZ is the prime contractor for this effort. FY 2019 is Lot 5; Lots 1-3 are Air Force only procurements.

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Exhibit P-21, Production Schedule: PB 2019 Navy																				Date: February 2018													
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2										P-1 Line Item Number / Title: 2238 / Small Diameter Bomb II (SDB II)										Item Number / Title [DODIC]: 1 / Small Diameter Bomb II (SDB II)													
Cost Elements <i>(Units in Each)</i>							Fiscal Year 2018													Fiscal Year 2019													B A L A N C E
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2017	BAL DUE AS OF 1 OCT	Calendar Year 2018													Calendar Year 2019													
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P			
1.1.1) All Up Round (AUR)																																	
	1	2018	NAVY	90	0	90				A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	10	10	60
	1	2018	AF (‡)	460	0	460				A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	39	39	39	343
	1	2018	Total	550	0	550				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	49	49	49	403
	1	2019	NAVY	750	0	750																A -	-	-	-	-	-	-	-	-	-	-	750
	1	2019	AF (‡)	300	0	300																A -	-	-	-	-	-	-	-	-	-	-	300
	1	2019	Total	1,050	0	1,050																-	-	-	-	-	-	-	-	-	-	-	1,050
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P			

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Exhibit P-21, Production Schedule: PB 2019 Navy																			Date: February 2018														
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2							P-1 Line Item Number / Title: 2238 / Small Diameter Bomb II (SDB II)													Item Number / Title [DODIC]: 1 / Small Diameter Bomb II (SDB II)													
Cost Elements (Units in Each)							Fiscal Year 2020													Fiscal Year 2021													BALANCE
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2019	BAL DUE AS OF 1 OCT	Calendar Year 2020													Calendar Year 2021													
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP			
1.1.1) All Up Round (AUR)																																	
	1	2018	NAVY	90	30	60	10	10	10	10	10	10	-	-	-																	0	
	1	2018	AF (‡)	460	117	343	39	39	39	39	39	39	39	39	31																	0	
	1	2018	Total	550	147	403	49	49	49	49	49	49	39	39	31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0		
	1	2019	NAVY	750	0	750	-	-	-	-	-	-	-	-	-	62	62	62	62	62	62	63	63	63	63	63				0			
	1	2019	AF (‡)	300	0	300	-	-	-	-	-	-	-	-	-	25	25	25	25	25	25	25	25	25	25	25				0			
	1	2019	Total	1,050	0	1,050	-	-	-	-	-	-	-	-	-	87	87	87	87	87	87	88	88	88	88	88	88	-	-	-	0		
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP			

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Exhibit P-21, Production Schedule: PB 2019 Navy									Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2					P-1 Line Item Number / Title: 2238 / Small Diameter Bomb II (SDB II)				Item Number / Title [DODIC]: 1 / Small Diameter Bomb II (SDB II)			
MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Year)			Procurement Leadtime (Months)							
		MSR For 2019	1-8-5 For 2019	MAX For 2019	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	Raytheon CO - Tucson AZ	840	1,050	1,250	0	4	18	22	0	4	18	22

(‡) Delivery rows marked with this symbol indicate that they are funded through a separate Line Item. See the respective components' exhibits for details, including the full delivery schedule.

"A" in the Delivery Schedule indicates the Contract Award Date.

Note: Due to space limitations, quantities in the Exhibit P-21 delivery calendar are truncated and rounded based on the maximum quantity in the calendar as follows. If the maximum quantity is less than or equal to than 9,999, all quantities are shown as each. If the maximum quantity is between 10,000 and 999,999 all quantities are shown in thousands. If the maximum quantity is between 1,000,000 and 999,999,999 all quantities are shown in millions (rounded to the nearest thousand). If the maximum quantity is equal or greater than 1,000,000,000 all quantities are shown in billions (rounded to the nearest million).

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy								Date: February 2018				
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 02: Other Missiles / BSA 2: Tactical Missiles							P-1 Line Item Number / Title: 2242 / Rolling Airframe Missile (RAM)					
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A					Other Related Program Elements: N/A				
Line Item MDAP/MAIS Code: N/A												
Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity (Units in Each)	1,565	120	60	120	-	120	150	155	270	270	Continuing	Continuing
Gross/Weapon System Cost (\$ in Millions)	1,132.159	95.557	58.587	96.221	0.000	96.221	130.981	136.863	233.558	228.085	Continuing	Continuing
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	1,132.159	95.557	58.587	96.221	0.000	96.221	130.981	136.863	233.558	228.085	Continuing	Continuing
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	1,132.159	95.557	58.587	96.221	0.000	96.221	130.981	136.863	233.558	228.085	Continuing	Continuing
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)												
Initial Spares (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (\$ in Dollars)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Dollars)	723,424.28	796,308.33	976,450.00	801,841.67	-	801,841.67	873,206.67	882,987.10	865,029.63	844,759.26	Continuing	Continuing
Description:												
Rolling Airframe Missile (RAM) is a high fire-power missile system used to defeat Anti-Ship Cruise Missiles (ASCMs), as well as other airborne threats. RAM is a surface-to-air missile with passive dual-mode radio frequency/infrared (RF/IR) guidance and an active-optical proximity and contact fuse. RAM has minimal shipboard control systems and is autonomous after launch. Effective against a wide spectrum of existing threats, RAM Block 1 IR upgrade incorporates IR "all-the-way-homing" to improve performance against evolving passive and active ASCMs. RAM Block 2 provides increased kinematic capability against highly maneuvering threats and improved RF detection against low probability of intercept threats. The RAM missile is fired from a RAM Guided Missile Launching System (GMLS) (MK-49), which holds 21 RAM rounds. RAM is also fired from the SeaRAM Anti-Ship Missile Defense System (MK-15 MOD 31-33) which holds 11 rounds.												
COOPERATIVE AGREEMENTS:												
RAM is a cooperative program with the Federal Republic of Germany. The U.S. and Federal Republic of Germany cooperatively produce Block 1 missiles, launchers, and Ordnance Alterations (ORDALTs) through the Block 1 production Memorandum Of Agreement (MOA), Amendment 2 signed on 28 September 2010. The Block 2 production Memorandum of Understanding (MOU) was signed on 19 March 2013 with the U.S and Federal Republic of Germany to cooperatively produce Block 2 missiles, launchers, and ORDALTs and continue to provide support for Block 1 configuration through FY 2013 - FY 2019.												
[P5 / EF008 Block 2 Missile]: Provides funding to procure RAM Block 2 All Up Rounds (AUR) including telemetry hardware to support fleet training requirements.												
[P5 / EF850 Component Improvement/DMS]: Provides RAM Design Agent engineering and technical support for component replacement and improvement. The RAM Guided Missile Round Pack (GMRP) is a build to print missile that includes commercial-off-the-shelf hardware. Support includes the development/review/approval/verification of production engineering change proposals and obsolescence mitigation efforts. This support is required to ensure that the build to print package continues to support the system performance specs as production matures. With Block 2 Developmental Testing/Operational Testing underway, initial production and testing additional component improvement requirements were identified. These requirements address software/firmware/hardware corrections of production start up issues and test flight concerns as well as GMRP reprogramming. Software baseline updates require formal qualification testing at the four software components (IR Processor, Evolved RF Processor, Control Section Processor and Guidance Processor) and All Up Round. It also requires each individual component piece of test equipment and the all up round test station to be updated with the software baseline. Funding also supports replacement of key components due to end of lifetime buy.												
[P5 / EF957 Container]: Procures containers for transporting the GMRP.												

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy		Date: February 2018
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 02: Other Missiles / BSA 2: Tactical Missiles		P-1 Line Item Number / Title: 2242 / Rolling Airframe Missile (RAM)
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: N/A		
<p>[P5 / EF830 Production Support]: Provides critical engineering and technical support of the production line and production test equipment. Efforts include the technical investigation and resolution of production issues, control and maintenance of the technical data package, resolution of test equipment issues, configuration management, reliability assessments, and safety. Production support is an annual requirement which supports all on-going production and is independent of contract award quantities.</p> <p>[P5 / EF860 Product Acceptance]: Funds field activity product acceptance efforts.</p> <p>[P5 / EF974 ILS]: Funds Integrated Logistics Support (ILS) efforts in support of production.</p>		

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy								Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 02: Other Missiles / BSA 2: Tactical Missiles						P-1 Line Item Number / Title: 2242 / Rolling Airframe Missile (RAM)				
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A			Other Related Program Elements: N/A				
Line Item MDAP/MAIS Code: N/A										
Exhibits Schedule					Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	1 / Rolling Airframe Missile (RAM)	P-5a, P-21			1,565 / 1,132.159	120 / 95.557	60 / 58.587	120 / 96.221	- / 0.000	120 / 96.221
P-40	Total Gross/Weapon System Cost				1,565 / 1,132.159	120 / 95.557	60 / 58.587	120 / 96.221	- / 0.000	120 / 96.221
*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.										
Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.										

Justification:

FY 2019 increase supports the RAM Block 2 procurement increase from 60 units in FY 2018 to 120 units in FY 2019.

The unit costs reflected in FY 2016 and FY 2017 reflect the negotiated and awarded FY 2016 / FY 2017 production contract.

FY 2018-FY 2022 funding has been realigned from RAM (WPN BLI 2242) to Ship Self Def (Engage: Hard Kill) (RD TEN PE 0604756N) and Ship Missile Support Equipment (OPN BLI 5231) to support RAM Block 2 Raid Engineering Change Proposal (ECP). The RAM Block 2 Raid ECP will provide an upgraded seeker and Missile-to-Missile Link (MML) capability to counter emerging complex raid threats.

FY 2019-FY 2023 funding increase supports RAM Block 2 procurements up to 120/150/155/270/270.

The FY 2019 funding request was reduced by \$.08 million to reflect the Department of Navy's effort to support the Office of Management and Budget directed reforms for Efficiency and Effectiveness that include a lean, accountable, more efficient government.

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Exhibit P-5, Cost Analysis: PB 2019 Navy											Date: February 2018							
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2						P-1 Line Item Number / Title: 2242 / Rolling Airframe Missile (RAM)						Item Number / Title [DODIC]: 1 / Rolling Airframe Missile (RAM)						
ID Code (A=Service Ready, B=Not Service Ready) :									MDAP/MAIS Code:									
Resource Summary				Prior Years		FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total				
Procurement Quantity <i>(Units in Each)</i>				1,565		120		60		120		-		120				
Gross/Weapon System Cost <i>(\$ in Millions)</i>				1,132.159		95.557		58.587		96.221		0.000		96.221				
Less PY Advance Procurement <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Net Procurement (P-1) <i>(\$ in Millions)</i>				1,132.159		95.557		58.587		96.221		0.000		96.221				
Plus CY Advance Procurement <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Total Obligation Authority <i>(\$ in Millions)</i>				1,132.159		95.557		58.587		96.221		0.000		96.221				
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)																		
Initial Spares <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Gross/Weapon System Unit Cost <i>(\$ in Dollars)</i>				723,424.28		796,308.33		976,450.00		801,841.67		-		801,841.67				
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
Hardware - EF001 Block 1 Missile Cost																		
Recurring Cost																		
1.1.1) EF001 G&C	406,217.21	1,197	486.242	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.1.2) EF001 Propulsion	14,114.29	140	1.976	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.1.3) EF001 Safe and Arm Device	3,407.14	140	0.477	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.1.4) EF001 Ordnance Pack	26,600.00	140	3.724	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.1.5) EF001 Warhead	11,221.43	140	1.571	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.1.6) EF001 Canisters	46,371.43	140	6.492	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.1.7) EF001 Block 1 GMRP ORDALTS	216,706.67	450	97.518	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Recurring Cost	-	-	598.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Hardware - EF001 Block 1 Missile Cost	-	-	598.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hardware - EF002 Propulsion Cost																		
Recurring Cost																		
2.1.1) EF002 Propulsion	-	-	12.364	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Recurring Cost	-	-	12.364	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Hardware - EF002 Propulsion Cost	-	-	12.364	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hardware - EF004 Safe and Arm Cost																		

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Exhibit P-5, Cost Analysis: PB 2019 Navy												Date: February 2018						
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2						P-1 Line Item Number / Title: 2242 / Rolling Airframe Missile (RAM)						Item Number / Title [DODIC]: 1 / Rolling Airframe Missile (RAM)						
ID Code (A=Service Ready, B=Not Service Ready) :									MDAP/MAIS Code:									
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
Recurring Cost																		
3.1.1) EF004 Safe & Arm Device	-	-	2.103	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Recurring Cost	-	-	2.103	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Hardware - EF004 Safe and Arm Cost	-	-	2.103	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hardware - EF005 Ordnance Pack Cost																		
Recurring Cost																		
4.1.1) EF005 Ordnance Pack	-	-	28.251	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Recurring Cost	-	-	28.251	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Hardware - EF005 Ordnance Pack Cost	-	-	28.251	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hardware - EF006 Warhead Cost																		
Recurring Cost																		
5.1.1) EF006 Warhead	-	-	7.174	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Recurring Cost	-	-	7.174	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Hardware - EF006 Warhead Cost	-	-	7.174	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hardware - EF007 Canister Cost																		
Recurring Cost																		
6.1.1) EF007 Canister	-	-	32.031	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Recurring Cost	-	-	32.031	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Hardware - EF007 Canister Cost	-	-	32.031	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hardware - EF008 Block 2 Missile Cost																		
Recurring Cost																		
7.1.1) EF008 G&C ^(†) (1)	544,937.50	368	200.537	493,831.03	120	59.260	569,333.33	60	34.160	502,418.45	120	60.290	-	-	-	502,418.45	120	60.290
7.1.2) EF008 Propulsion ^(†)	76,021.74	368	27.976	66,332.00	120	7.960	76,476.03	60	4.589	67,485.47	120	8.098	-	-	-	67,485.47	120	8.098
7.1.3) EF008 Safe and Arm Device ^(†)	11,369.57	368	4.184	7,299.69	120	0.876	8,416.02	60	0.505	7,426.63	120	0.891	-	-	-	7,426.63	120	0.891
7.1.4) EF008 Ordnance Pack ^(†)	50,358.70	368	18.532	50,433.07	120	6.052	58,145.72	60	3.489	51,310.07	120	6.157	-	-	-	51,310.07	120	6.157
7.1.5) EF008 Warhead ^(†)	31,329.27	246	7.707	28,734.91	120	3.448	33,129.28	60	1.988	29,234.59	120	3.508	-	-	-	29,234.59	120	3.508

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Exhibit P-5, Cost Analysis: PB 2019 Navy										Date: February 2018								
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2						P-1 Line Item Number / Title: 2242 / Rolling Airframe Missile (RAM)						Item Number / Title [DODIC]: 1 / Rolling Airframe Missile (RAM)						
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:								
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
7.1.6) EF008 Canister ^(†)	52,086.96	368	19.168	44,233.30	120	5.308	51,014.48	60	3.061	45,017.19	120	5.402	-	-	-	45,017.19	120	5.402
Subtotal: Recurring Cost	-	-	278.104	-	-	82.904	-	-	47.792	-	-	84.346	-	-	-	-	-	84.346
Subtotal: Hardware - EF008 Block 2 Missile Cost	-	-	278.104	-	-	82.904	-	-	47.792	-	-	84.346	-	-	-	-	-	84.346
Hardware Cost																		
Recurring Cost																		
8.1.1) EF008 Telemeters ^(†)	28,296.88	64	1.811	41,000.00	33	1.353	28,000.00	20	0.560	-	-	-	-	-	-	-	-	-
8.1.2) EF008 Transportation	-	-	0.015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Recurring Cost	-	-	1.826	-	-	1.353	-	-	0.560	-	-	-	-	-	-	-	-	-
Subtotal: Hardware Cost	-	-	1.826	-	-	1.353	-	-	0.560	-	-	-	-	-	-	-	-	-
Hardware - EF850 Component Improvement/DMS Cost																		
Recurring Cost																		
9.1.1) EF850 Component Improvement	-	-	68.671	-	-	1.475	-	-	2.485	-	-	1.535	-	-	-	-	-	1.535
9.1.2) EF850 Diminishing Manufacturing Sources ⁽²⁾	-	-	11.488	-	-	2.413	-	-	2.297	-	-	2.511	-	-	-	-	-	2.511
Subtotal: Recurring Cost	-	-	80.159	-	-	3.888	-	-	4.782	-	-	4.046	-	-	-	-	-	4.046
Subtotal: Hardware - EF850 Component Improvement/ DMS Cost	-	-	80.159	-	-	3.888	-	-	4.782	-	-	4.046	-	-	-	-	-	4.046
Hardware - EF957 Container Cost																		
Recurring Cost																		
10.1.1) EF957 Container ^(†)	8,240.00	350	2.884	-	-	-	6,750.00	20	0.135	6,900.00	20	0.138	-	-	-	6,900.00	20	0.138
Subtotal: Recurring Cost	-	-	2.884	-	-	-	-	-	0.135	-	-	0.138	-	-	-	-	-	0.138
Subtotal: Hardware - EF957 Container Cost	-	-	2.884	-	-	-	-	-	0.135	-	-	0.138	-	-	-	-	-	0.138
Support - EF830 Production Support Cost																		
11.1) EF830 Production Support Contractor Engineering ⁽³⁾	-	-	35.792	-	-	3.992	-	-	2.404	-	-	4.140	-	-	-	-	-	4.140

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Exhibit P-5, Cost Analysis: PB 2019 Navy											Date: February 2018							
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2						P-1 Line Item Number / Title: 2242 / Rolling Airframe Missile (RAM)						Item Number / Title [DODIC]: 1 / Rolling Airframe Missile (RAM)						
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:								
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
11.2) EF830 Production Support Gov In-House Engineering ⁽⁴⁾	-	-	40.528	-	-	2.441	-	-	1.980	-	-	2.540	-	-	-	-	-	2.540
Subtotal: Support - EF830 Production Support Cost	-	-	76.320	-	-	6.433	-	-	4.384	-	-	6.680	-	-	-	-	-	6.680
Support - EF860 Product Acceptance Cost																		
12.1) EF860 Product Acceptance	-	-	5.301	-	-	0.398	-	-	0.322	-	-	0.406	-	-	-	-	-	0.406
Subtotal: Support - EF860 Product Acceptance Cost	-	-	5.301	-	-	0.398	-	-	0.322	-	-	0.406	-	-	-	-	-	0.406
Support - EF950 Tool & Test Equipment Cost																		
13.1) EF950 Tool & Test Equipment	-	-	1.205	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Support - EF950 Tool & Test Equipment Cost	-	-	1.205	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Support - EF974 ILS Cost																		
14.1) EF974 ILS	-	-	6.090	-	-	0.581	-	-	0.612	-	-	0.605	-	-	-	-	-	0.605
14.2) WAXXX Acquisition Workforce Fund 2009	-	-	0.347	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Support - EF974 ILS Cost	-	-	6.437	-	-	0.581	-	-	0.612	-	-	0.605	-	-	-	-	-	0.605
Gross/Weapon System Cost	723,424.28	1,565	1,132.159	796,308.33	120	95.557	976,450.00	60	58.587	801,841.67	120	96.221	-	-	0.000	801,841.67	120	96.221
Remarks: [Support Cost] Additional efforts required to support DMS is driving the increase in production support for updating the technical data package (TDP). Production support is an annual requirement which supports all on-going production and is independent of contract award quantities. (†) indicates the presence of a P-5a Footnotes: (1) FY 2018 unit cost exceeds approved OMB / OSD inflation factor from FY 2017 due to quantity reduction from 120 to 60 missiles. Unit costs will decreased in FY 2019 through FY 2023 due to increase in production. FY 2019 quantity increased from 60 to 120. (2) DMS reflects normal levels of manufacturing obsolescence associated with Field-Programmable Gate Arrays (FPGA), flash drives, capacitors, resistors, inductors, diodes, adhesives, chemicals (rocket motor), materials (potting, fiberglass, printed circuit cards, alloys), etc. RAM also has a requirement for long term storage making it susceptible to tin whiskers. Therefore, many components require unique tin-lead alloy or lead coating to prevent this phenomenon. These components historically have recurring short time frame obsolescence issues. (3) Production support increase due to RAM BLK 2 GMRP Production increase from 60 in FY 2018 to 120 in FY 2019. (4) Production support increase due to RAM BLK 2 GMRP Production increase from 60 in FY 2018 to 120 in FY 2019.																		

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Exhibit P-5a, Procurement History and Planning: PB 2019 Navy								Date: February 2018				
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2				P-1 Line Item Number / Title: 2242 / Rolling Airframe Missile (RAM)				Item Number / Title [DODIC]: 1 / Rolling Airframe Missile (RAM)				
Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$)	Specs Avail Now?	Date Revision Available	RFP Issue Date
7.1.1) EF008 G&C ^(†)		2012	Raytheon CO / Tuscon, AZ	SS / FFP	NAVSEA	Jul 2012	Jun 2014	61	737,000.00	Y		Feb 2011
7.1.1) EF008 G&C ^(†)		2013	Raytheon CO / Tucson, AZ	SS / FFP	NAVSEA	Dec 2012	Dec 2014	61	556,409.84	Y		Feb 2011
7.1.1) EF008 G&C ^(†)		2014	Raytheon CO / Tucson, AZ	SS / FFP	NAVSEA	Jun 2014	Jun 2016	66	497,909.09	Y		Jun 2012
7.1.1) EF008 G&C ^(†)		2015	Raytheon CO / Tucson, AZ	SS / FFP	NAVSEA	Feb 2015	Feb 2017	90	460,181.24	Y		Jun 2012
7.1.1) EF008 G&C ^(†)		2016	Raytheon CO / Tucson, AZ	SS / FFP	NAVSEA	Dec 2015	Dec 2017	90	526,233.33	Y		Feb 2014
7.1.1) EF008 G&C ^(†)		2017	Raytheon CO / Tucson, AZ	SS / FFP	NAVSEA	Dec 2016	Dec 2018	120	493,831.03	Y		Feb 2014
7.1.1) EF008 G&C ^(†)		2018	Raytheon CO / Tucson, AZ	SS / FFP	NAVSEA	Feb 2018	Feb 2020	60	569,333.33	Y		Feb 2016
7.1.1) EF008 G&C ^(†)		2019	Raytheon CO / Tucson, AZ	SS / FFP	NAVSEA	Dec 2018	Dec 2020	120	502,418.45	Y		Feb 2016
7.1.2) EF008 Propulsion ^(†)		2012	Raytheon CO / Tuscon, AZ	SS / FFP	NAVSEA	Jul 2012	Jul 2014	61	75,000.00	Y		Feb 2011
7.1.2) EF008 Propulsion ^(†)		2013	Raytheon CO / Tuscon, AZ	SS / FFP	NAVSEA	Dec 2012	Dec 2014	61	76,278.69	Y		Feb 2011
7.1.2) EF008 Propulsion ^(†)		2014	Raytheon CO / Tuscon, AZ	SS / FFP	NAVSEA	Jun 2014	Jun 2016	66	83,151.52	Y		Feb 2013
7.1.2) EF008 Propulsion ^(†)		2015	Raytheon CO / Tuscon, AZ	SS / FFP	NAVSEA	Feb 2015	Feb 2017	90	68,606.49	Y		Feb 2013
7.1.2) EF008 Propulsion ^(†)		2016	Raytheon CO / Tuscon, AZ	SS / FFP	NAVSEA	Dec 2015	Dec 2017	90	78,723.03	Y		Feb 2015
7.1.2) EF008 Propulsion ^(†)		2017	Raytheon CO / Tuscon, AZ	SS / FFP	NAVSEA	Dec 2016	Dec 2018	120	66,332.00	Y		Feb 2015
7.1.2) EF008 Propulsion ^(†)		2018	Raytheon CO / Tuscon, AZ	SS / FFP	NAVSEA	Feb 2018	Feb 2020	60	76,476.03	Y		Feb 2016
7.1.2) EF008 Propulsion ^(†)		2019	Raytheon CO / Tuscon, AZ	SS / FFP	NAVSEA	Dec 2018	Dec 2020	120	67,485.47	Y		Feb 2016
7.1.3) EF008 Safe and Arm Device		2012	Raytheon CO / Tucson, AZ	SS / FFP	NAVSEA	Jul 2012	Jul 2014	61	15,000.00	Y		Feb 2011
7.1.3) EF008 Safe and Arm Device		2013	Raytheon CO / Tucson, AZ	SS / FFP	NAVSEA	Dec 2012	Dec 2014	61	15,262.30	Y		Feb 2011
7.1.3) EF008 Safe and Arm Device		2014	Raytheon CO / Tucson, AZ	SS / FFP	NAVSEA	Jun 2014	Jun 2016	66	16,621.21	Y		Feb 2013
7.1.3) EF008 Safe and Arm Device		2015	Raytheon CO / Tucson, AZ	SS / FFP	NAVSEA	Feb 2015	Feb 2017	90	6,472.31	Y		Feb 2013
7.1.3) EF008 Safe and Arm Device		2016	Raytheon CO / Tucson, AZ	SS / FFP	NAVSEA	Dec 2015	Dec 2017	90	7,307.52	Y		Feb 2015
7.1.3) EF008 Safe and Arm Device		2017	Raytheon CO / Tucson, AZ	SS / FFP	NAVSEA	Dec 2016	Dec 2018	120	7,299.69	Y		Feb 2015
7.1.3) EF008 Safe and Arm Device		2018	Raytheon CO / Tucson, AZ	SS / FFP	NAVSEA	Feb 2018	Feb 2020	60	8,416.02	Y		Feb 2016
7.1.3) EF008 Safe and Arm Device		2019	Raytheon CO / Tucson, AZ	SS / FFP	NAVSEA	Dec 2018	Dec 2020	120	7,426.63	Y		Feb 2016
7.1.4) EF008 Ordnance Pack ^(†)		2012	Raytheon CO / Tucson, AZ	SS / FFP	NAVSEA	Jul 2012	Jul 2014	61	48,000.00	Y		Feb 2011
7.1.4) EF008 Ordnance Pack ^(†)		2013	Raytheon CO / Tucson, AZ	SS / FFP	NAVSEA	Dec 2012	Dec 2014	61	48,819.67	Y		Feb 2011
7.1.4) EF008 Ordnance Pack ^(†)		2014	Raytheon CO / Tucson, AZ	SS / FFP	NAVSEA	Jun 2014	Jun 2016	66	53,212.12	Y		Feb 2013
7.1.4) EF008 Ordnance Pack ^(†)		2015	Raytheon CO / Tucson, AZ	SS / FFP	NAVSEA	Feb 2015	Feb 2017	90	47,247.87	Y		Feb 2013
7.1.4) EF008 Ordnance Pack ^(†)		2016	Raytheon CO / Tucson, AZ	SS / FFP	NAVSEA	Dec 2015	Dec 2017	90	54,022.22	Y		Feb 2015

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Exhibit P-5a, Procurement History and Planning: PB 2019 Navy								Date: February 2018				
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2			P-1 Line Item Number / Title: 2242 / Rolling Airframe Missile (RAM)					Item Number / Title [DODIC]: 1 / Rolling Airframe Missile (RAM)				
Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$)	Specs Avail Now?	Date Revision Available	RFP Issue Date
7.1.4) EF008 Ordnance Pack ^(†)		2017	Raytheon CO / Tucson, AZ	SS / FFP	NAVSEA	Dec 2016	Dec 2018	120	50,433.07	Y		Feb 2015
7.1.4) EF008 Ordnance Pack ^(†)		2018	Raytheon CO / Tucson, AZ	SS / FFP	NAVSEA	Feb 2018	Feb 2020	60	58,145.72	Y		Feb 2016
7.1.4) EF008 Ordnance Pack ^(†)		2019	Raytheon CO / Tucson, AZ	SS / FFP	NAVSEA	Dec 2018	Dec 2020	120	51,310.07	Y		Feb 2016
7.1.5) EF008 Warhead		2014	Raytheon CO / Tucson, AZ	SS / FFP	NAVSEA	Jun 2014	Jun 2016	66	16,075.76	Y		Feb 2013
7.1.5) EF008 Warhead		2015	Raytheon CO / Tucson, AZ	SS / FFP	NAVSEA	Feb 2015	Feb 2017	90	25,242.00	Y		Feb 2013
7.1.5) EF008 Warhead		2016	Raytheon CO / Tucson, AZ	SS / FFP	NAVSEA	Dec 2015	Dec 2017	90	28,765.76	Y		Feb 2015
7.1.5) EF008 Warhead		2017	Raytheon CO / Tucson, AZ	SS / FFP	NAVSEA	Dec 2016	Dec 2018	120	28,734.91	Y		Feb 2015
7.1.5) EF008 Warhead		2018	Raytheon CO / Tucson, AZ	SS / FFP	NAVSEA	Feb 2018	Feb 2020	60	33,129.28	Y		Feb 2016
7.1.5) EF008 Warhead		2019	Raytheon CO / Tucson, AZ	SS / FFP	NAVSEA	Dec 2018	Dec 2020	120	29,234.59	Y		Feb 2016
7.1.6) EF008 Canister ^(†)		2012	Raytheon CO / Tucson, AZ	SS / FFP	NAVSEA	Jul 2012	Jul 2014	61	60,000.00	Y		Feb 2011
7.1.6) EF008 Canister ^(†)		2013	Raytheon CO / Tucson, AZ	SS / FFP	NAVSEA	Dec 2012	Dec 2014	61	57,786.89	Y		Feb 2011
7.1.6) EF008 Canister ^(†)		2014	Raytheon CO / Tucson, AZ	SS / FFP	NAVSEA	Jun 2014	Jun 2016	66	66,515.15	Y		Feb 2013
7.1.6) EF008 Canister ^(†)		2015	Raytheon CO / Tucson, AZ	SS / FFP	NAVSEA	Feb 2015	Feb 2017	90	39,481.09	Y		Feb 2013
7.1.6) EF008 Canister ^(†)		2016	Raytheon CO / Tucson, AZ	SS / FFP	NAVSEA	Dec 2015	Dec 2017	90	44,887.43	Y		Feb 2015
7.1.6) EF008 Canister ^(†)		2017	Raytheon CO / Tucson, AZ	SS / FFP	NAVSEA	Dec 2016	Dec 2018	120	44,233.30	Y		Feb 2015
7.1.6) EF008 Canister ^(†)		2018	Raytheon CO / Tucson, AZ	SS / FFP	NAVSEA	Feb 2018	Feb 2020	60	51,014.48	Y		Feb 2016
7.1.6) EF008 Canister ^(†)		2019	Raytheon CO / Tucson, AZ	SS / FFP	NAVSEA	Dec 2018	Dec 2020	120	45,017.19	Y		Feb 2016
8.1.1) EF008 Telemeters		2015	NAWC China Lake / China Lake, CA	WR	CA	Feb 2015	May 2016	35	25,992.00	Y		
8.1.1) EF008 Telemeters		2016	NAWC China Lake / China Lake, CA	WR	CA	Oct 2015	Jan 2017	24	31,250.00	Y		
8.1.1) EF008 Telemeters		2017	NAWC China Lake / China Lake, CA	WR	CA	Oct 2016	Jan 2018	33	41,000.00	Y		
8.1.1) EF008 Telemeters		2018	NAWC China Lake / China Lake, CA	WR	CA	Oct 2017	Oct 2017	20	28,000.00	Y		
10.1.1) EF957 Container		2014	NSWC Indian Head / Picatinny, NJ	C / FFP	NJ	Feb 2015	Aug 2015	108	6,815.00	Y		Nov 2014
10.1.1) EF957 Container		2015	NSWC Indian Head / Picatinny, NJ	C / FFP	NJ	Jul 2015	Jan 2016	93	6,967.74	Y		Nov 2014
10.1.1) EF957 Container		2018	NSWC Indian Head / Picatinny, NJ	C / FFP	NJ	Jan 2018	Jul 2018	20	6,750.00	Y		Jun 2017
10.1.1) EF957 Container		2019	NSWC Indian Head / Picatinny, NJ	C / FFP	NJ	Jan 2019	Jul 2019	20	6,900.00	Y		Jun 2017
^(†) indicates the presence of a P-21												

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Exhibit P-21, Production Schedule: PB 2019 Navy																				Date: February 2018																
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2										P-1 Line Item Number / Title: 2242 / Rolling Airframe Missile (RAM)										Item Number / Title [DODIC]: 1 / Rolling Airframe Missile (RAM)																
Cost Elements (Units in Each)							Fiscal Year 2012										Fiscal Year 2013													B A L A N C E						
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEP T P R I O R T O 1 O C T 2 0 1 1	BAL DUE AS OF 1 OCT				Calendar Year 2012										Calendar Year 2013																
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G		S E P					
7.1.1) EF008 G&C ⁽¹⁾																																				
	2	2012	NAVY		61		0	61											A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	61
	1	2013	NAVY		61		0	61																								61				
	1	2014	NAVY		66		0	66																								66				
	1	2015	NAVY		90		0	90																								90				
	1	2016	NAVY		90		0	90																								90				
	1	2017	NAVY		120		0	120																								120				
	1	2018	NAVY		60 ⁽⁵⁾		0	60																								60				
	1	2019	NAVY		120		0	120																								120				
7.1.2) EF008 Propulsion																																				
	3	2012	NAVY		61		0	61											A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	61
	3	2013	NAVY		61		0	61																								61				
	3	2014	NAVY		66		0	66																								66				
	3	2015	NAVY		90		0	90																								90				
	3	2016	NAVY		90		0	90																								90				
	3	2017	NAVY		120		0	120																								120				
	3	2018	NAVY		60		0	60																								60				
	3	2019	NAVY		120		0	120																								120				
7.1.4) EF008 Ordnance Pack																																				
	4	2012	NAVY		61		0	61											A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	61
	4	2013	NAVY		61		0	61																								61				
	4	2014	NAVY		66		0	66																								66				
	4	2015	NAVY		90		0	90																								90				
	4	2016	NAVY		90		0	90																								90				
	4	2017	NAVY		120		0	120																								120				
	4	2018	NAVY		60		0	60																								60				
	4	2019	NAVY		120		0	120																								120				
7.1.6) EF008 Canister																																				
	5	2012	NAVY		61		0	61											A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	61
	5	2013	NAVY		61		0	61																								61				
	5	2014	NAVY		66		0	66																								66				
	5	2015	NAVY		90		0	90																								90				
	5	2016	NAVY		90		0	90																								90				
									O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P				

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Exhibit P-21, Production Schedule: PB 2019 Navy																	Date: February 2018																		
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2							P-1 Line Item Number / Title: 2242 / Rolling Airframe Missile (RAM)																	Item Number / Title [DODIC]: 1 / Rolling Airframe Missile (RAM)											
Cost Elements (Units in Each)							Fiscal Year 2012													Fiscal Year 2013													B A L A N C E		
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2011	BAL DUE AS OF 1 OCT	Calendar Year 2012													Calendar Year 2013															
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P					
	5	2017	NAVY	120	0	120																													120
	5	2018	NAVY	60	0	60																													60
	5	2019	NAVY	120	0	120																													120
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P					

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Exhibit P-21, Production Schedule: PB 2019 Navy																			Date: February 2018														
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2							P-1 Line Item Number / Title: 2242 / Rolling Airframe Missile (RAM)												Item Number / Title [DODIC]: 1 / Rolling Airframe Missile (RAM)														
Cost Elements (Units in Each)							Fiscal Year 2014												Fiscal Year 2015												B A L A N C E		
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEP T P R I O R T O 1 O C T 2 0 1 3	BAL DUE AS OF 1 OCT	Calendar Year 2014												Calendar Year 2015														
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P			
7.1.1) EF008 G&C ⁽¹⁾																																	
	2	2012	NAVY	61	0	61	-	-	-	-	-	-	-	-	5	5	5	5	5	5	5	5	5	5	5	5	5	6				0	
	1	2013	NAVY	61	0	61	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	5	5	5	5	5	5	5	5	5	5	11	
	1	2014	NAVY	66	0	66									A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	66	
	1	2015	NAVY	90	0	90																	A	-	-	-	-	-	-	-	-	90	
	1	2016	NAVY	90	0	90																										90	
	1	2017	NAVY	120	0	120																										120	
	1	2018	NAVY	60 ⁽⁵⁾	0	60																										60	
	1	2019	NAVY	120	0	120																										120	
7.1.2) EF008 Propulsion																																	
	3	2012	NAVY	61	0	61	-	-	-	-	-	-	-	-	-	5	5	5	5	5	5	5	5	5	5	5	5	5	6				0
	3	2013	NAVY	61	0	61	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	5	5	5	5	5	5	5	5	5	5	11	
	3	2014	NAVY	66	0	66										A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	66	
	3	2015	NAVY	90	0	90																	A	-	-	-	-	-	-	-	-	90	
	3	2016	NAVY	90	0	90																										90	
	3	2017	NAVY	120	0	120																										120	
	3	2018	NAVY	60	0	60																										60	
	3	2019	NAVY	120	0	120																										120	
7.1.4) EF008 Ordnance Pack																																	
	4	2012	NAVY	61	0	61	-	-	-	-	-	-	-	-	-	5	5	5	5	5	5	5	5	5	5	5	5	5	6				0
	4	2013	NAVY	61	0	61	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	5	5	5	5	5	5	5	5	5	5	11	
	4	2014	NAVY	66	0	66										A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	66	
	4	2015	NAVY	90	0	90																	A	-	-	-	-	-	-	-	-	90	
	4	2016	NAVY	90	0	90																										90	
	4	2017	NAVY	120	0	120																										120	
	4	2018	NAVY	60	0	60																										60	
	4	2019	NAVY	120	0	120																										120	
7.1.6) EF008 Canister																																	
	5	2012	NAVY	61	0	61	-	-	-	-	-	-	-	-	-	5	5	5	5	5	5	5	5	5	5	5	5	5	6				0
	5	2013	NAVY	61	0	61	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	5	5	5	5	5	5	5	5	5	5	11	
	5	2014	NAVY	66	0	66										A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	66	
	5	2015	NAVY	90	0	90																	A	-	-	-	-	-	-	-	-	90	
	5	2016	NAVY	90	0	90																										90	
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P			

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Exhibit P-21, Production Schedule: PB 2019 Navy																		Date: February 2018																	
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2							P-1 Line Item Number / Title: 2242 / Rolling Airframe Missile (RAM)																		Item Number / Title [DODIC]: 1 / Rolling Airframe Missile (RAM)										
Cost Elements (Units in Each)							Fiscal Year 2014												Fiscal Year 2015												B A L A N C E				
O C C #	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2013	BAL DUE AS OF 1 OCT	Calendar Year 2014												Calendar Year 2015																
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P					
	5	2017	NAVY	120	0	120																													120
	5	2018	NAVY	60	0	60																													60
	5	2019	NAVY	120	0	120	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	120				

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Exhibit P-21, Production Schedule: PB 2019 Navy																			Date: February 2018																	
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2										P-1 Line Item Number / Title: 2242 / Rolling Airframe Missile (RAM)										Item Number / Title [DODIC]: 1 / Rolling Airframe Missile (RAM)																
Cost Elements (Units in Each)							Fiscal Year 2016										Fiscal Year 2017										B A L A N C E									
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEP T P R I O R T O 1 O C T 2 0 1 5	BAL DUE AS OF 1 OCT	Calendar Year 2016										Calendar Year 2017																			
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y		J U N	J U L	A U G	S E P					
7.1.1) EF008 G&C ⁽¹⁾																																				
	2	2012	NAVY		61	61	0																									0				
	1	2013	NAVY		61	50	11	5	6																									0		
	1	2014	NAVY		66	0	66	-	-	-	-	-	-	-	-	5	5	5	5	5	5	6	6	6	6	6	6	6	6	6	0					
	1	2015	NAVY		90	0	90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	8	7	8	7	8	7	8	30					
	1	2016	NAVY		90	0	90	A -			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90					
	1	2017	NAVY		120	0	120															A -	-	-	-	-	-	-	-	-	-	-	-	-	-	120
	1	2018	NAVY		60 ⁽⁵⁾	0	60																									60				
	1	2019	NAVY		120	0	120																									120				
7.1.2) EF008 Propulsion																																				
	3	2012	NAVY		61	61	0																									0				
	3	2013	NAVY		61	50	11	5	6																									0		
	3	2014	NAVY		66	0	66	-	-	-	-	-	-	-	-	5	5	5	5	5	5	6	6	6	6	6	6	6	6	6	0					
	3	2015	NAVY		90	0	90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	8	7	8	7	8	7	8	30					
	3	2016	NAVY		90	0	90	A -			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90					
	3	2017	NAVY		120	0	120															A -	-	-	-	-	-	-	-	-	-	-	-	-	120	
	3	2018	NAVY		60	0	60																									60				
	3	2019	NAVY		120	0	120																									120				
7.1.4) EF008 Ordnance Pack																																				
	4	2012	NAVY		61	61	0																									0				
	4	2013	NAVY		61	50	11	5	6																									0		
	4	2014	NAVY		66	0	66	-	-	-	-	-	-	-	-	5	5	5	5	5	5	6	6	6	6	6	6	6	6	6	0					
	4	2015	NAVY		90	0	90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	8	7	8	7	8	7	8	30					
	4	2016	NAVY		90	0	90	A -			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90					
	4	2017	NAVY		120	0	120															A -	-	-	-	-	-	-	-	-	-	-	-	-	120	
	4	2018	NAVY		60	0	60																									60				
	4	2019	NAVY		120	0	120																									120				
7.1.6) EF008 Canister																																				
	5	2012	NAVY		61	61	0																									0				
	5	2013	NAVY		61	50	11	5	6																									0		
	5	2014	NAVY		66	0	66	-	-	-	-	-	-	-	-	5	5	5	5	5	5	6	6	6	6	6	6	6	6	6	0					
	5	2015	NAVY		90	0	90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	8	7	8	7	8	7	8	30					
	5	2016	NAVY		90	0	90	A -			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90					
								O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P					

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Exhibit P-21, Production Schedule: PB 2019 Navy																	Date: February 2018																				
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2							P-1 Line Item Number / Title: 2242 / Rolling Airframe Missile (RAM)																	Item Number / Title [DODIC]: 1 / Rolling Airframe Missile (RAM)													
Cost Elements (Units in Each)							Fiscal Year 2016													Fiscal Year 2017													B A L A N C E				
O C C #	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2015	BAL DUE AS OF 1 OCT	Calendar Year 2016													Calendar Year 2017																	
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P							
	5	2017	NAVY	120	0	120														A -	-	-	-	-	-	-	-	-	-	-	-	-	-	120			
	5	2018	NAVY	60	0	60																															60
	5	2019	NAVY	120	0	120																															120
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P							

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Exhibit P-21, Production Schedule: PB 2019 Navy																			Date: February 2018															
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2									P-1 Line Item Number / Title: 2242 / Rolling Airframe Missile (RAM)											Item Number / Title [DODIC]: 1 / Rolling Airframe Missile (RAM)														
Cost Elements (Units in Each)						Fiscal Year 2018													Fiscal Year 2019													B A L A N C E		
O C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2017	BAL DUE AS OF 1 OCT	Calendar Year 2018													Calendar Year 2019														
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P				
7.1.1) EF008 G&C ⁽¹⁾																																		
	2	2012	NAVY		61	61	0																								0			
	1	2013	NAVY		61	61	0																								0			
	1	2014	NAVY		66	66	0																								0			
	1	2015	NAVY		90	60	30	7	8	7	8																			0				
	1	2016	NAVY		90	0	90	-	-	7	8	7	8	7	8	7	8	7	8	10	10	10	10	10	10	10	10	10	10	20				
	1	2017	NAVY		120	0	120	-	-	-	-	-	-	-	-	-	-	-	-	10	10	10	10	10	10	10	10	10	10	20				
	1	2018	NAVY		60 ⁽⁵⁾	0	60	A -				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	60					
	1	2019	NAVY		120	0	120														A -	-	-	-	-	-	-	-	-	-	-	-	-	120
7.1.2) EF008 Propulsion																																		
	3	2012	NAVY		61	61	0																								0			
	3	2013	NAVY		61	61	0																								0			
	3	2014	NAVY		66	66	0																								0			
	3	2015	NAVY		90	60	30	7	8	7	8																			0				
	3	2016	NAVY		90	0	90	-	-	7	8	7	8	7	8	7	8	7	8	10	10	10	10	10	10	10	10	10	10	20				
	3	2017	NAVY		120	0	120	-	-	-	-	-	-	-	-	-	-	-	-	10	10	10	10	10	10	10	10	10	10	20				
	3	2018	NAVY		60	0	60	A -				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	60					
	3	2019	NAVY		120	0	120														A -	-	-	-	-	-	-	-	-	-	-	-	120	
7.1.4) EF008 Ordnance Pack																																		
	4	2012	NAVY		61	61	0																								0			
	4	2013	NAVY		61	61	0																								0			
	4	2014	NAVY		66	66	0																								0			
	4	2015	NAVY		90	60	30	7	8	7	8																			0				
	4	2016	NAVY		90	0	90	-	-	7	8	7	8	7	8	7	8	7	8	10	10	10	10	10	10	10	10	10	10	20				
	4	2017	NAVY		120	0	120	-	-	-	-	-	-	-	-	-	-	-	-	10	10	10	10	10	10	10	10	10	10	20				
	4	2018	NAVY		60	0	60	A -				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	60					
	4	2019	NAVY		120	0	120														A -	-	-	-	-	-	-	-	-	-	-	-	120	
7.1.6) EF008 Canister																																		
	5	2012	NAVY		61	61	0																								0			
	5	2013	NAVY		61	61	0																								0			
	5	2014	NAVY		66	66	0																								0			
	5	2015	NAVY		90	60	30	7	8	7	8																			0				
	5	2016	NAVY		90	0	90	-	-	7	8	7	8	7	8	7	8	7	8	10	10	10	10	10	10	10	10	10	10	20				
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P				

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Exhibit P-21, Production Schedule: PB 2019 Navy																			Date: February 2018															
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2							P-1 Line Item Number / Title: 2242 / Rolling Airframe Missile (RAM)													Item Number / Title [DODIC]: 1 / Rolling Airframe Missile (RAM)														
Cost Elements <i>(Units in Each)</i>							Fiscal Year 2018													Fiscal Year 2019													B A L A N C E	
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2017	BAL DUE AS OF 1 OCT	Calendar Year 2018													Calendar Year 2019														
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P				
	5	2017	NAVY	120	0	120	-	-	-	-	-	-	-	-	-	-	-	-	-	10	10	10	10	10	10	10	10	10	10	20				
	5	2018	NAVY	60	0	60					A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	60				
	5	2019	NAVY	120	0	120														A	-	-	-	-	-	-	-	-	-	-	-	-	-	120
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P				

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Exhibit P-21, Production Schedule: PB 2019 Navy																			Date: February 2018														
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2							P-1 Line Item Number / Title: 2242 / Rolling Airframe Missile (RAM)												Item Number / Title [DODIC]: 1 / Rolling Airframe Missile (RAM)														
Cost Elements (Units in Each)							Fiscal Year 2020												Fiscal Year 2021												B A L A N C E		
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEP T P R I O R T O 1 OCT 2019	BAL DUE AS OF 1 OCT	Calendar Year 2020												Calendar Year 2021														
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P			
7.1.1) EF008 G&C ⁽¹⁾																																	
	2	2012	NAVY		61	61	0																										0
	1	2013	NAVY		61	61	0																										0
	1	2014	NAVY		66	66	0																										0
	1	2015	NAVY		90	90	0																										0
	1	2016	NAVY		90	90	0																										0
	1	2017	NAVY		120	100	20	10	10																			0					
	1	2018	NAVY		60 ⁽⁵⁾	0	60	-	-	-	-	7	8	7	8	7	8	7	8														0
	1	2019	NAVY		120	0	120	-	-	-	-	-	-	-	-	-	-	-	-	11	10	11	10	11	10	11	10	9	10	9	10	19	
7.1.2) EF008 Propulsion																																	
	3	2012	NAVY		61	61	0																										0
	3	2013	NAVY		61	61	0																										0
	3	2014	NAVY		66	66	0																										0
	3	2015	NAVY		90	90	0																										0
	3	2016	NAVY		90	90	0																										0
	3	2017	NAVY		120	100	20	10	10																			0					
	3	2018	NAVY		60	0	60	-	-	-	-	7	8	7	8	7	8	7	8														0
	3	2019	NAVY		120	0	120	-	-	-	-	-	-	-	-	-	-	-	-	11	10	11	10	11	10	11	10	9	10	9	10	19	
7.1.4) EF008 Ordnance Pack																																	
	4	2012	NAVY		61	61	0																										0
	4	2013	NAVY		61	61	0																										0
	4	2014	NAVY		66	66	0																										0
	4	2015	NAVY		90	90	0																										0
	4	2016	NAVY		90	90	0																										0
	4	2017	NAVY		120	100	20	10	10																			0					
	4	2018	NAVY		60	0	60	-	-	-	-	7	8	7	8	7	8	7	8														0
	4	2019	NAVY		120	0	120	-	-	-	-	-	-	-	-	-	-	-	-	11	10	11	10	11	10	11	10	9	10	9	10	19	
7.1.6) EF008 Canister																																	
	5	2012	NAVY		61	61	0																										0
	5	2013	NAVY		61	61	0																										0
	5	2014	NAVY		66	66	0																										0
	5	2015	NAVY		90	90	0																										0
	5	2016	NAVY		90	90	0																										0
								O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P		

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Exhibit P-21, Production Schedule: PB 2019 Navy																			Date: February 2018												
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2									P-1 Line Item Number / Title: 2242 / Rolling Airframe Missile (RAM)										Item Number / Title [DODIC]: 1 / Rolling Airframe Missile (RAM)												
Cost Elements (Units in Each)							Fiscal Year 2020										Fiscal Year 2021														BALANCE
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2019	BAL DUE AS OF 1 OCT	Calendar Year 2020										Calendar Year 2021														
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	
	5	2017	NAVY	120	100	20	10	10																						0	
	5	2018	NAVY	60	0	60	-	-	-	-	7	8	7	8	7	8	7	8												0	
	5	2019	NAVY	120	0	120	-	-	-	-	-	-	-	-	-	-	-	-	-	11	10	11	10	11	10	9	10	9	10	19	
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	

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Exhibit P-21, Production Schedule: PB 2019 Navy																				Date: February 2018													
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2										P-1 Line Item Number / Title: 2242 / Rolling Airframe Missile (RAM)										Item Number / Title [DODIC]: 1 / Rolling Airframe Missile (RAM)													
Cost Elements (Units in Each)							Fiscal Year 2022										Fiscal Year 2023													BALANCE			
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2021	BAL DUE AS OF 1 OCT				Calendar Year 2022										Calendar Year 2023													
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG		SEP		
7.1.1) EF008 G&C ⁽¹⁾																																	
	2	2012	NAVY		61	61	0																								0		
	1	2013	NAVY		61	61	0																								0		
	1	2014	NAVY		66	66	0																								0		
	1	2015	NAVY		90	90	0																								0		
	1	2016	NAVY		90	90	0																								0		
	1	2017	NAVY		120	120	0																								0		
	1	2018	NAVY		60 ⁽⁵⁾	60	0																								0		
	1	2019	NAVY		120	101	19	9	10																						0		
7.1.2) EF008 Propulsion																																	
	3	2012	NAVY		61	61	0																								0		
	3	2013	NAVY		61	61	0																								0		
	3	2014	NAVY		66	66	0																								0		
	3	2015	NAVY		90	90	0																								0		
	3	2016	NAVY		90	90	0																								0		
	3	2017	NAVY		120	120	0																								0		
	3	2018	NAVY		60	60	0																								0		
	3	2019	NAVY		120	101	19	9	10																						0		
7.1.4) EF008 Ordnance Pack																																	
	4	2012	NAVY		61	61	0																								0		
	4	2013	NAVY		61	61	0																								0		
	4	2014	NAVY		66	66	0																								0		
	4	2015	NAVY		90	90	0																								0		
	4	2016	NAVY		90	90	0																								0		
	4	2017	NAVY		120	120	0																								0		
	4	2018	NAVY		60	60	0																								0		
	4	2019	NAVY		120	101	19	9	10																						0		
7.1.6) EF008 Canister																																	
	5	2012	NAVY		61	61	0																								0		
	5	2013	NAVY		61	61	0																								0		
	5	2014	NAVY		66	66	0																								0		
	5	2015	NAVY		90	90	0																								0		
	5	2016	NAVY		90	90	0																								0		
								OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		

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Exhibit P-21, Production Schedule: PB 2019 Navy																	Date: February 2018																				
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2							P-1 Line Item Number / Title: 2242 / Rolling Airframe Missile (RAM)																	Item Number / Title [DODIC]: 1 / Rolling Airframe Missile (RAM)													
Cost Elements (Units in Each)							Fiscal Year 2022													Fiscal Year 2023													BALANCE				
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2021	BAL DUE AS OF 1 OCT	Calendar Year 2022													Calendar Year 2023																	
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P							
	5	2017	NAVY	120	120	0																													0		
	5	2018	NAVY	60	60	0																													0		
	5	2019	NAVY	120	101	19	9	10																													0
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P							

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Exhibit P-21, Production Schedule: PB 2019 Navy									Date: February 2018				
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2					P-1 Line Item Number / Title: 2242 / Rolling Airframe Missile (RAM)					Item Number / Title [DODIC]: 1 / Rolling Airframe Missile (RAM)			
MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Year)			Procurement Leadtime (Months)								
		MSR For 2019	1-8-5 For 2019	MAX For 2019	Initial				Reorder				
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	
1	Raytheon CO - Tucson, AZ	90	240	480	0	3	24	27	0	3	24	27	
2	Raytheon CO - Tuscon, AZ	90	240	480	0	3	23	26	0	3	23	26	
3	Raytheon CO - Tuscon, AZ	90	288	480	0	3	24	27	0	3	24	27	
4	Raytheon CO - Tucson, AZ	90	288	480	0	3	24	27	0	3	24	27	
5	Raytheon CO - Tucson, AZ	90	288	480	0	3	24	27	0	2	24	26	

"A" in the Delivery Schedule indicates the Contract Award Date.
Note: Due to space limitations, quantities in the Exhibit P-21 delivery calendar are truncated and rounded based on the maximum quantity in the calendar as follows. If the maximum quantity is less than or equal to than 9,999, all quantities are shown as each. If the maximum quantity is between 10,000 and 999,999 all quantities are shown in thousands. If the maximum quantity is between 1,000,000 and 999,999,999 all quantities are shown in millions (rounded to the nearest thousand).If the maximum quantity is equal or greater than 1,000,000,000 all quantities are shown in billions (rounded to the nearest million).

Footnotes:
(5) RAM program office works with prime contractor to coordinate Department of Defense, Foreign Military Sales, third party sales and cooperative German sales to preclude production gaps.

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy **Date:** February 2018

Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 02: Other Missiles / BSA 2: Tactical Missiles	P-1 Line Item Number / Title: 2248 / Joint Air Ground Missile (JAGM)
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ID Code (A=Service Ready, B=Not Service Ready): B	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	96	-	75	-	75	75	192	192	304	5,082	6,016
Gross/Weapon System Cost (<i>\$ in Millions</i>)	0.000	21.922	3.789	24.109	0.000	24.109	24.142	49.438	50.423	76.253	1,302.797	1,552.873
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	0.000	21.922	3.789	24.109	0.000	24.109	24.142	49.438	50.423	76.253	1,302.797	1,552.873
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	0.000	21.922	3.789	24.109	0.000	24.109	24.142	49.438	50.423	76.253	1,302.797	1,552.873
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	228,354.17	-	321,453.33	-	321,453.33	321,893.33	257,489.58	262,619.79	250,832.24	256,355.18	258,123.84

Description:

The Joint Air-to-Ground Missile (JAGM) is an air-launched missile system that will incorporate multi-mode seeker technology thus providing advanced Line-of-Sight and Beyond-Line-of-Sight precision fire and-forget seeker targeting capabilities resulting in increased lethality against soft, hardened, moving, stationary, land and maritime threats. JAGM improves the warfighter's capability in adverse weather, day or night, and in obscured/countermeasure environments. The JAGM Increment 1 system will replace aviation-launched, Tube-launched, Optically-tracked, Wire-guided (TOW) missile, and Helicopter Launched Fire-&-Forget (HELLFIRE) Missile Systems. JAGM is an Army-led joint program that addresses rotary wing and unmanned aerial vehicle requirements. The Department of Navy threshold platform is the AH-1Z. The JAGM system includes missile, trainers, containers, support equipment, and software modifications to the M-299 launcher. Missile configurations include the JAGM Tactical Missile, Captive Air Training Missile and Air Training Missile. The Department of Navy total procurement for Joint Air-to-Ground Missile is 6,016 missiles.

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy								Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 02: Other Missiles / BSA 2: Tactical Missiles						P-1 Line Item Number / Title: 2248 / Joint Air Ground Missile (JAGM)				
ID Code (A=Service Ready, B=Not Service Ready): B			Program Elements for Code B Items: N/A			Other Related Program Elements: N/A				
Line Item MDAP/MAIS Code: N/A										
Exhibits Schedule					Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	1 / Joint Air Ground Missile (JAGM)	P-5a, P-21			- / 0.000	96 / 21.922	- / 3.789	75 / 24.109	- / 0.000	75 / 24.109
P-40	Total Gross/Weapon System Cost				- / 0.000	96 / 21.922	- / 3.789	75 / 24.109	- / 0.000	75 / 24.109
*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.										
Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.										

Justification:
 FY 2019 funding will be used to procure the JAGM Low Rate Initial Production (LRIP) Lot 3 buy of 75 missiles, Other Production Support (OPS), training missiles, and production related engineering and logistics. Gross/Weapon System Unit Cost in FY 2019, as compared to FY 2017, increased greater than the rate of inflation due to the transition from a pre-negotiated, Fixed-Price Engineering Manufacturing & Development (EMD) contract option to a renegotiated contract incorporating technical and cost data obtained from the EMD phase.

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Exhibit P-5, Cost Analysis: PB 2019 Navy												Date: February 2018						
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2						P-1 Line Item Number / Title: 2248 / Joint Air Ground Missile (JAGM)						Item Number / Title [DODIC]: 1 / Joint Air Ground Missile (JAGM)						
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:								
Resource Summary				Prior Years		FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total				
Procurement Quantity <i>(Units in Each)</i>				-		96		-		75		-		75				
Gross/Weapon System Cost <i>(\$ in Millions)</i>				0.000		21.922		3.789		24.109		0.000		24.109				
Less PY Advance Procurement <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Net Procurement (P-1) <i>(\$ in Millions)</i>				0.000		21.922		3.789		24.109		0.000		24.109				
Plus CY Advance Procurement <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Total Obligation Authority <i>(\$ in Millions)</i>				0.000		21.922		3.789		24.109		0.000		24.109				
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)																		
Initial Spares <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Gross/Weapon System Unit Cost <i>(\$ in Dollars)</i>				-		228,354.17		-		321,453.33		-		321,453.33				
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
Hardware Cost																		
Recurring Cost																		
1.1.1) (JG001) JAGM All-Up-Round (AUR) ⁽¹⁾	-	-	-	196,000.00	92	18.032	-	-	-	214,452.00	71	15.226	-	-	-	214,452.00	71	15.226
1.1.2) (JG002) Training Missiles ⁽¹⁾ (2)	-	-	-	196,000.00	4	0.784	-	-	-	214,452.00	4	0.858	-	-	-	214,452.00	4	0.858
Subtotal: Recurring Cost	-	-	-	-	-	18.816	-	-	-	-	-	16.084	-	-	-	-	-	16.084
Subtotal: Hardware Cost	-	-	-	-	-	18.816	-	-	-	-	-	16.084	-	-	-	-	-	16.084
Support - JAGM Support Costs Cost																		
2.1) (JG003) Integrated Logistics Support	-	-	-	-	-	0.224	-	-	0.300	-	-	0.575	-	-	-	-	-	0.575
2.2) (JG004) Production Engineering Support	-	-	-	-	-	1.076	-	-	1.558	-	-	2.906	-	-	-	-	-	2.906
2.3) (JG005) Containers	-	-	-	-	-	0.197	-	-	-	-	-	-	-	-	-	-	-	-
2.5) (JG007) Other Production Support ⁽³⁾	-	-	-	-	-	1.609	-	-	1.931	-	-	4.544	-	-	-	-	-	4.544
Subtotal: Support - JAGM Support Costs Cost	-	-	-	-	-	3.106	-	-	3.789	-	-	8.025	-	-	-	-	-	8.025
Gross/Weapon System Cost	-	-	0.000	228,354.17	96	21.922	-	-	3.789	321,453.33	75	24.109	-	-	0.000	321,453.33	75	24.109
Remarks:																		

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Exhibit P-5, Cost Analysis: PB 2019 Navy		Date: February 2018
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2	P-1 Line Item Number / Title: 2248 / Joint Air Ground Missile (JAGM)	Item Number / Title [DODIC]: 1 / Joint Air Ground Missile (JAGM)
ID Code (A=Service Ready, B=Not Service Ready) :		MDAP/MAIS Code:
<p>Milestone C was deferred from 3QTR2017 to 3QTR2018; therefore, FY 2017 and FY 2018 funding was combined to support the procurement of the JAGM Low Rate Initial Production (LRIP) buy of 96 missiles, Other Production Support (OPS), training missiles, and production related engineering and logistics in order to meet the Initial Operating Capability.</p> <p>(t) indicates the presence of a P-5a</p> <p>Footnotes:</p> <p>(1) Quantities reflect the program's fully funded fixed price contract options. All Up Round (AUR) unit costs will fluctuate according to total procurement between all services. Unit cost for FY 2017 reflects the fixed price option on the EMD contract for the LRIP procurements. Unit cost for FY 2019 and out reflect the approved unit cost in accordance with the Director, Cost Assessment and Program Evaluation Independent Cost Estimate.</p> <p>(2) Training Missiles unit costs will fluctuate according to total procurement between all services.</p> <p>(3) JAGM Support Costs: Support costs in FY 2017 will be used in FY 2018 once Milestone C is achieved in 3Q FY 2018; therefore there is no significant increase in FY 2019. The increase above inflation is in order to support the transition of Low Rate Initial Production procurements to Full Rate Production procurements. Other Production Support includes government program management and engineering support associated with the U.S. Army contract and can fluctuate depending on the Army activities associated for each fiscal year.</p>		

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Exhibit P-5a, Procurement History and Planning: PB 2019 Navy								Date: February 2018				
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2			P-1 Line Item Number / Title: 2248 / Joint Air Ground Missile (JAGM)					Item Number / Title [DODIC]: 1 / Joint Air Ground Missile (JAGM)				
Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$)	Specs Avail Now?	Date Revision Available	RFP Issue Date
1.1.1) (JG001) JAGM All-Up-Round (AUR) ^(†)		2017	Lockheed Martin / Orlando, FL	C / FPIF	Huntsville	May 2018	Oct 2019	92	196,000.00	Y		Feb 2015
1.1.1) (JG001) JAGM All-Up-Round (AUR) ^(†)		2019	Lockheed Martin / Orlando, FL	C / FPIF	Huntsville	Mar 2019	Apr 2021	71	214,452.00	Y		May 2017
1.1.2) (JG002) Training Missiles ^(†)		2017	Lockheed Martin / Orlando, FL	C / FPIF	Huntsville	May 2018	Nov 2019	4	196,000.00	Y		Feb 2015
1.1.2) (JG002) Training Missiles ^(†)		2019	Lockheed Martin / Orlando, FL	C / FPIF	Huntsville	Mar 2019	Apr 2021	4	214,452.00	Y		May 2017

^(†) indicates the presence of a P-21

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Exhibit P-21, Production Schedule: PB 2019 Navy																				Date: February 2018																							
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2										P-1 Line Item Number / Title: 2248 / Joint Air Ground Missile (JAGM)										Item Number / Title [DODIC]: 1 / Joint Air Ground Missile (JAGM)																							
Cost Elements <i>(Units in Each)</i>							Fiscal Year 2018										Fiscal Year 2019													BALANCE													
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2017	BAL DUE AS OF 1 OCT	Calendar Year 2018										Calendar Year 2019																										
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG		SEP												
1.1.1) (JG001) JAGM All-Up-Round (AUR) ⁽¹⁾																																											
	1	2017	NAVY	92 ⁽⁴⁾	0	92											A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	92								
	1	2019	NAVY	71	0	71																								A -	-	-	-	-	-	-	-	-	-	-	-	-	71
	1	2019	ARMY ^(‡)	1,055	0	1,055																								A -	-	-	-	-	-	-	-	-	-	-	-	-	1,055
	1	2019	Total	1,126	0	1,126																								-	-	-	-	-	-	-	-	-	-	-	-	-	1,126
1.1.2) (JG002) Training Missiles ⁽²⁾																																											
	2	2017	NAVY	4	0	4											A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4							
	2	2019	NAVY	4	0	4																								A -	-	-	-	-	-	-	-	-	-	-	-	-	4
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP													

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Exhibit P-21, Production Schedule: PB 2019 Navy																							Date: February 2018								
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2										P-1 Line Item Number / Title: 2248 / Joint Air Ground Missile (JAGM)													Item Number / Title [DODIC]: 1 / Joint Air Ground Missile (JAGM)								
Cost Elements <i>(Units in Each)</i>							Fiscal Year 2020												Fiscal Year 2021												BALANCE
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2019	BAL DUE AS OF 1 OCT	Calendar Year 2020												Calendar Year 2021												
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
1.1.1) (JG001) JAGM All-Up-Round (AUR) ⁽¹⁾																															
	1	2017	NAVY	92 ⁽⁴⁾	0	92	46	46																						0	
	1	2019	NAVY	71	0	71	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	6	6	6	6	6	36	
	1	2019	ARMY ^(‡)	1,055	0	1,055	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	88	88	88	88	88	88	527	
	1	2019	Total	1,126	0	1,126	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	93	94	94	94	94	94	563	
1.1.2) (JG002) Training Missiles ⁽²⁾																															
	2	2017	NAVY	4	0	4	-	4																						0	
	2	2019	NAVY	4	0	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4						0	
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	

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Exhibit P-21, Production Schedule: PB 2019 Navy																							Date: February 2018									
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2										P-1 Line Item Number / Title: 2248 / Joint Air Ground Missile (JAGM)													Item Number / Title [DODIC]: 1 / Joint Air Ground Missile (JAGM)									
Cost Elements <i>(Units in Each)</i>							Fiscal Year 2022											Fiscal Year 2023													BALANCE	
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2021	BAL DUE AS OF 1 OCT	Calendar Year 2022						Calendar Year 2023																			
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1.1.1) (JG001) JAGM All-Up-Round (AUR) ⁽¹⁾																																
	1	2017	NAVY	92 ⁽⁴⁾	92	0																										0
	1	2019	NAVY	71	35	36	6	6	6	6	6	6																				0
	1	2019	ARMY ^(‡)	1,055	528	527	88	88	88	88	88	87																				0
	1	2019	Total	1,126	563	563	94	94	94	94	94	93	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0		
1.1.2) (JG002) Training Missiles ⁽²⁾																																
	2	2017	NAVY	4	4	0																										0
	2	2019	NAVY	4	4	0																										0
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		

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Exhibit P-21, Production Schedule: PB 2019 Navy									Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2					P-1 Line Item Number / Title: 2248 / Joint Air Ground Missile (JAGM)				Item Number / Title [DODIC]: 1 / Joint Air Ground Missile (JAGM)			
MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Year)			Procurement Leadtime (Months)							
		MSR For 2019	1-8-5 For 2019	MAX For 2019	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	Lockheed Martin - Orlando, FL	420	1,200	1,200	0	20	17	37	0	6	25	31
2	Lockheed Martin - Orlando, FL	100	600	600	0	20	17	37	0	6	25	31

(‡) Delivery rows marked with this symbol indicate that they are funded through a separate Line Item. See the respective components' exhibits for details, including the full delivery schedule.
 "A" in the Delivery Schedule indicates the Contract Award Date.

Note: Due to space limitations, quantities in the Exhibit P-21 delivery calendar are truncated and rounded based on the maximum quantity in the calendar as follows. If the maximum quantity is less than or equal to than 9,999, all quantities are shown as each. If the maximum quantity is between 10,000 and 999,999 all quantities are shown in thousands. If the maximum quantity is between 1,000,000 and 999,999,999 all quantities are shown in millions (rounded to the nearest thousand). If the maximum quantity is equal or greater than 1,000,000,000 all quantities are shown in billions (rounded to the nearest million).

Footnotes:

(4) Army deliveries for FY17 contract total 373 from July 2018 through March 2019. While Navy has no quantities procured with FY18 funds, Army procures 824 with deliveries from April 2019 through March 2021.

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy **Date:** February 2018

Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 02: Other Missiles / BSA 2: Tactical Missiles	P-1 Line Item Number / Title: 2254 / Hellfire
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ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	6,474	100	110	-	23	23	-	-	-	-	-	6,707
Gross/Weapon System Cost (<i>\$ in Millions</i>)	1,035.955	8.600	8.771	0.000	1.530	1.530	0.000	0.000	0.000	0.000	-	1,054.856
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	1,035.955	8.600	8.771	0.000	1.530	1.530	0.000	0.000	0.000	0.000	-	1,054.856
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	1,035.955	8.600	8.771	0.000	1.530	1.530	0.000	0.000	0.000	0.000	-	1,054.856
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Dollars</i>)	136,299.04	75,200.00	69,727.27	-	56,521.74	56,521.74	-	-	-	-	-	134,022.66
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	160,017.76	86,000.00	79,736.36	-	66,521.74	66,521.74	-	-	-	-	-	157,276.87

Description:

AGM-114 Hellfire is a family of laser guided missiles employed against point and moving targets by both rotary and fixed wing aircraft. The family of Hellfire missiles includes, but is not limited to, AGM-114B/K/ K2/K2A/M/N/N-5/P/P+/Q/Q6 variants. These variants include shaped charge warheads for use against armored targets and blast fragmentation warheads for use against urban structures. The AGM-114N is a thermobaric blast fragmentation warhead that maintains the capability provided by the AGM-114M while adding a unique capability against confined compartmented spaces, a typical target type observed in current combat operations. Other variants include the K2A, which has a blast frag sleeve for use against soft-skinned tactical vehicles, the N5, which provides a trajectory shaping capability to increase endgame lethality against vertical structures, and the P/P+ variants, which include high altitude launch trajectories for use from fixed-wing aircraft. Additionally, the Q and Q6 variants have inert warheads, which are used for training on ranges that do not allow live warheads, and to preserve tactical missiles for use in combat. Conversions from one variant to another are done on an as needed basis.

Prior year funding includes Hellfire, Viper Strike, and Griffin.

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy								Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 02: Other Missiles / BSA 2: Tactical Missiles						P-1 Line Item Number / Title: 2254 / Hellfire				
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A			Other Related Program Elements: N/A				
Line Item MDAP/MAIS Code: N/A										
Exhibits Schedule					Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	1 / Hellfire Missile	P-5a, P-21			6,474 / 1,035.955	100 / 8.600	110 / 8.771	- / 0.000	23 / 1.530	23 / 1.530
P-40	Total Gross/Weapon System Cost				6,474 / 1,035.955	100 / 8.600	110 / 8.771	- / 0.000	23 / 1.530	23 / 1.530
*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.										
Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.										

Justification:

OCO:

From 1 October 2015 through 30 September 2016, 100 Hellfire missiles were expended to support pre-deployment training prior to Overseas Contingency Operations (OCO). FY 2019 replaces 23 of the 100 training missiles expended.

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Exhibit P-5, Cost Analysis: PB 2019 Navy												Date: February 2018						
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2						P-1 Line Item Number / Title: 2254 / Hellfire						Item Number / Title [DODIC]: 1 / Hellfire Missile						
ID Code (A=Service Ready, B=Not Service Ready) :									MDAP/MAIS Code:									
Resource Summary				Prior Years		FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total				
Procurement Quantity <i>(Units in Each)</i>				6,474		100		110		-		23		23				
Gross/Weapon System Cost <i>(\$ in Millions)</i>				1,035.955		8.600		8.771		0.000		1.530		1.530				
Less PY Advance Procurement <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Net Procurement (P-1) <i>(\$ in Millions)</i>				1,035.955		8.600		8.771		0.000		1.530		1.530				
Plus CY Advance Procurement <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Total Obligation Authority <i>(\$ in Millions)</i>				1,035.955		8.600		8.771		0.000		1.530		1.530				
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)																		
Initial Spares <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Gross/Weapon System Unit Cost <i>(\$ in Dollars)</i>				160,017.76		86,000.00		79,736.36		-		66,521.74		66,521.74				
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
Flyaway Cost																		
Recurring Cost																		
1.1.1) F6010 Hellfire All-Up-Rounds (AURs) ^(†)	135,013.35	5,992	809.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.1.2) F6300 Air Training Missiles ^(†) (1)	63,338.17	482	30.529	75,200.00	100	7.520	69,727.27	110	7.670	-	-	0.000	56,500.00	23	1.300	56,500.00	23	1.300
1.1.3) F6420 Containers	-	-	2.264	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Recurring Cost	-	-	841.793	-	-	7.520	-	-	7.670	-	-	0.000	-	-	1.300	-	-	1.300
Subtotal: Flyaway Cost	-	-	841.793	-	-	7.520	-	-	7.670	-	-	0.000	-	-	1.300	-	-	1.300
Flyaway - Prior Year Flyaway Cost																		
Recurring Cost																		
2.1.1) Prior Year Flyaway ⁽²⁾	-	-	40.607	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Recurring Cost	-	-	40.607	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Flyaway - Prior Year Flyaway Cost	-	-	40.607	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Support - Procurement Support Cost																		
3.1) F6240 Government Test Program	-	-	5.579	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Support - Procurement Support Cost	-	-	5.579	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Support - Product Improvement Cost																		

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Exhibit P-5, Cost Analysis: PB 2019 Navy													Date: February 2018					
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2							P-1 Line Item Number / Title: 2254 / Hellfire						Item Number / Title [DODIC]: 1 / Hellfire Missile					
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:								
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
4.1) F6310 Product Improvement Program	-	-	1.443	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4.2) F6340 Hellfire Conversions	-	-	3.421	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4.3) F6820 Training Equipment/Test Equipment	-	-	30.009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Support - Product Improvement Cost	-	-	34.873	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Support - Production Engineering Cost																		
5.1) F6850 Production Engineering Support ⁽³⁾	-	-	102.216	-	-	0.980	-	-	1.000	-	-	0.000	-	-	0.128	-	-	0.128
Subtotal: Support - Production Engineering Cost	-	-	102.216	-	-	0.980	-	-	1.000	-	-	0.000	-	-	0.128	-	-	0.128
Support - Integrated Logistics Cost																		
6.1) F6860 Integrated Logistics Support	-	-	10.887	-	-	0.100	-	-	0.101	-	-	0.000	-	-	0.102	-	-	0.102
Subtotal: Support - Integrated Logistics Cost	-	-	10.887	-	-	0.100	-	-	0.101	-	-	0.000	-	-	0.102	-	-	0.102
Gross/Weapon System Cost	160,017.76	6,474	1,035.955	86,000.00	100	8.600	79,736.36	110	8.771	-	-	0.000	66,521.74	23	1.530	66,521.74	23	1.530

(t) : indicates the presence of a P-5a

Footnotes:

- (1) Air Training Missiles unit cost decrease in FY 2019 due to other service procurement projections and economies of scale.
- (2) Prior year costs include funding for Viper Strike and Griffin. Funding procured 140 Viper Strike and 130 Griffin missiles.
- (3) Production Engineering Support (PES) is proportional to weapon procurement quantities.

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Exhibit P-5a, Procurement History and Planning: PB 2019 Navy								Date: February 2018				
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2				P-1 Line Item Number / Title: 2254 / Hellfire				Item Number / Title [DODIC]: 1 / Hellfire Missile				

Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$)	Specs Avail Now?	Date Revision Available	RFP Issue Date
1.1.1) F6010 Hellfire All-Up-Rounds (AURs) ^(†)	✓	2014	Lockheed Martin / Orlando, FL	C / FFP	Huntsville	Mar 2014	Jul 2017	156	74,692.31	Y		Nov 2013
1.1.2) F6300 Air Training Missiles ^(†)	✓	2017	Lockheed Martin ⁽⁴⁾ / Orlando, FL	C / FFP	Huntsville	Aug 2017	Aug 2019	100	75,200.00	Y		Nov 2012
1.1.2) F6300 Air Training Missiles ^(†)	✓	2018	Lockheed Martin ⁽⁴⁾ / Orlando, FL	C / FFP	Huntsville	Mar 2018	Mar 2020	110	69,727.27	Y		Nov 2012
1.1.2) F6300 Air Training Missiles ^(†)	✓	2019	Lockheed Martin ⁽⁴⁾ / Orlando, FL	C / FFP	Huntsville	Mar 2019	Mar 2021	23	56,500.00	Y		Nov 2012

^(†) indicates the presence of a P-21

Footnotes:

⁽⁴⁾ MSR is for Tri-Service Procurement of the Army, Navy and Air Force.

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Exhibit P-21, Production Schedule: PB 2019 Navy																				Date: February 2018													
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2										P-1 Line Item Number / Title: 2254 / Hellfire										Item Number / Title [DODIC]: 1 / Hellfire Missile													
Cost Elements <i>(Units in Each)</i>							Fiscal Year 2014										Fiscal Year 2015													BALANCE			
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2013	BAL DUE AS OF 1 OCT	Calendar Year 2014										Calendar Year 2015																
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG		SEP		
1.1.1) F6010 Hellfire All-Up-Rounds (AURs)																																	
Prior Years Deliveries: 5836																																	
✓	1	2014	NAVY	156	0	156					A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	156		
1.1.2) F6300 Air Training Missiles ⁽¹⁾																																	
Prior Years Deliveries: 482																																	
✓	2	2017	NAVY	100	0	100																											100
✓	2	2018	NAVY	110	0	110																											110
✓	2	2019	NAVY	23	0	23																											23
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP			

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Exhibit P-21, Production Schedule: PB 2019 Navy																							Date: February 2018											
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2										P-1 Line Item Number / Title: 2254 / Hellfire													Item Number / Title [DODIC]: 1 / Hellfire Missile											
Cost Elements <i>(Units in Each)</i>							Fiscal Year 2016												Fiscal Year 2017														BALANCE	
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2015	BAL DUE AS OF 1 OCT	Calendar Year 2016												Calendar Year 2017															
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP				
1.1.1) F6010 Hellfire All-Up-Rounds (AURs)																																		
Prior Years Deliveries: 5836																																		
✓	1	2014	NAVY		156	0	156	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	86	-	-	70	
1.1.2) F6300 Air Training Missiles ⁽¹⁾																																		
Prior Years Deliveries: 482																																		
✓	2	2017	NAVY		100	0	100																									A -	-	100
✓	2	2018	NAVY		110	0	110																											110
✓	2	2019	NAVY		23	0	23																											23
								OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP			

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Exhibit P-21, Production Schedule: PB 2019 Navy																							Date: February 2018											
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2										P-1 Line Item Number / Title: 2254 / Hellfire													Item Number / Title [DODIC]: 1 / Hellfire Missile											
Cost Elements <i>(Units in Each)</i>							Fiscal Year 2018												Fiscal Year 2019												BALANCE			
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2017	BAL DUE AS OF 1 OCT				Calendar Year 2018												Calendar Year 2019												
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP				
1.1.1) F6010 Hellfire All-Up-Rounds (AURs)																																		
Prior Years Deliveries: 5836																																		
✓	1	2014	NAVY	156	86	70	-	-	-	-	40	-	-	-	-	-	-	-	30										0					
1.1.2) F6300 Air Training Missiles ⁽¹⁾																																		
Prior Years Deliveries: 482																																		
✓	2	2017	NAVY	100	0	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	8	84				
✓	2	2018	NAVY	110	0	110						A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	110				
✓	2	2019	NAVY	23	0	23													A					-	-	-	-	-	-	-	-	-	-	23
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP				

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Exhibit P-21, Production Schedule: PB 2019 Navy																				Date: February 2018																
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2										P-1 Line Item Number / Title: 2254 / Hellfire										Item Number / Title [DODIC]: 1 / Hellfire Missile																
Cost Elements <i>(Units in Each)</i>							Fiscal Year 2020										Fiscal Year 2021														BALANCE					
O C C #	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2019	BAL DUE AS OF 1 OCT	Calendar Year 2020										Calendar Year 2021																			
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P						
1.1.1) F6010 Hellfire All-Up-Rounds (AURs)																																				
Prior Years Deliveries: 5836																																				
✓	1	2014	NAVY	156	156	0																												0		
1.1.2) F6300 Air Training Missiles ⁽¹⁾																																				
Prior Years Deliveries: 482																																				
✓	2	2017	NAVY	100	16	84	8	8	8	8	8	8	9	9	9	9															0					
✓	2	2018	NAVY	110	0	110	-	-	-	-	-	9	9	9	9	9	9	9	9	10	10															0
✓	2	2019	NAVY	23	0	23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2	2	2	2	2	2	2	2	10					
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P						

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Exhibit P-21, Production Schedule: PB 2019 Navy								Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2				P-1 Line Item Number / Title: 2254 / Hellfire				Item Number / Title [DODIC]: 1 / Hellfire Missile			

MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Year)			Procurement Leadtime (Months)							
		MSR For 2019	1-8-5 For 2019	MAX For 2019	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	Lockheed Martin - Orlando, FL	1,200	3,360	7,200	0	0	0	0	0	6	40	46
2	Lockheed Martin ⁽⁴⁾ - Orlando, FL	1,200	3,360	7,200	0	0	0	0	0	6	24	30

"A" in the Delivery Schedule indicates the Contract Award Date.

Note: Due to space limitations, quantities in the Exhibit P-21 delivery calendar are truncated and rounded based on the maximum quantity in the calendar as follows. If the maximum quantity is less than or equal to than 9,999, all quantities are shown as each. If the maximum quantity is between 10,000 and 999,999 all quantities are shown in thousands. If the maximum quantity is between 1,000,000 and 999,999,999 all quantities are shown in millions (rounded to the nearest thousand). If the maximum quantity is equal or greater than 1,000,000,000 all quantities are shown in billions (rounded to the nearest million).

Footnotes:

⁽⁴⁾ MSR is for Tri-Service Procurement of the Army, Navy and Air Force.

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy										Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 02: Other Missiles / BSA 2: Tactical Missiles							P-1 Line Item Number / Title: 2255 / Laser Maverick					
ID Code (A=Service Ready, B=Not Service Ready): A				Program Elements for Code B Items: N/A				Other Related Program Elements: N/A				
Line Item MDAP/MAIS Code: N/A												
Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity <i>(Units in Each)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost <i>(\$ in Millions)</i>	74.485	20.000	5.040	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-	99.525
Less PY Advance Procurement <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) <i>(\$ in Millions)</i>	74.485	20.000	5.040	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-	99.525
Plus CY Advance Procurement <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority <i>(\$ in Millions)</i>	74.485	20.000	5.040	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-	99.525
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost <i>(\$ in Dollars)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost <i>(\$ in Dollars)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Description: The AGM-65 Maverick is a tactical, air-to-surface, guided missile designed for close-air support, interdiction and defense suppression missions. It also provides stand-off capability and high strike probability against a wide range of tactical targets, including high-speed moving targets, armor, air defenses, ships, transportation equipment and fuel storage facilities. The AGM-65E2 is a joint effort by the Navy and Air Force to modernize this capability with an enhanced laser seeker and new software that reduces the risk of collateral damage. The AGM-65E2 is a modification to the Maverick's Guidance and Control Section (GCS) to incorporate modern components which are a suitable replacement for the obsolete components of the existing AGM-65E.												

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy								Date: February 2018	
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 02: Other Missiles / BSA 2: Tactical Missiles						P-1 Line Item Number / Title: 2255 / Laser Maverick			
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A			Other Related Program Elements: N/A			
Line Item MDAP/MAIS Code: N/A									

Exhibits Schedule					Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-3a	1 / Laser Maverick (Service Life Extension)				- / 74.485	- / 20.000	- / 5.040	- / 0.000	- / 0.000	- / 0.000
P-40	Total Gross/Weapon System Cost				- / 74.485	- / 20.000	- / 5.040	- / 0.000	- / 0.000	- / 0.000

Exhibits Schedule					FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-3a	1 / Laser Maverick (Service Life Extension)				- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 99.525
P-40	Total Gross/Weapon System Cost				- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / -	- / 99.525

*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.

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Exhibit P-3a, Individual Modification: PB 2019 Navy		Date: February 2018
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2	P-1 Line Item Number / Title: 2255 / Laser Maverick	Modification Number / Title: 1 / Laser Maverick

ID Code (A=Service Ready, B=Not Service Ready) :						MDAP/MAIS Code:						
Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	74.485	20.000	5.040	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	99.525
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	74.485	20.000	5.040	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	99.525
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	74.485	20.000	5.040	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	99.525
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)												
Initial Spares (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Dollars)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

[AUR Installation Kits] The AGM-65 Maverick is a tactical, air-to-surface, guided missile designed for close-air support, interdiction and defense suppression missions which has been out of production for the Navy since FY 1991 in anticipation of the arrival of future missile systems. The AGM-65E2 is a conversion effort, which allows for procurement of a new Guidance and Control Section, which can be mated to an existing Maverick center aft section (motor and warhead section). This effort enables the Navy to rapidly and significantly increase the highly depleted Laser Maverick inventory using center aft sections from divested missiles to create additional AGM-65E2 All-Up Rounds. The AGM-65 is the only weapon in the current Navy inventory suitable for engagement of fast-moving, maneuvering land/surface targets from fixed-wing, tactical aircraft (F/A-18 A-D, F/A-18 E/F, AV-8B).

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Exhibit P-3a, Individual Modification: PB 2019 Navy										Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2				P-1 Line Item Number / Title: 2255 / Laser Maverick						Modification Number / Title: 1 / Laser Maverick			
ID Code (A=Service Ready, B=Not Service Ready) :								MDAP/MAIS Code:					
Models of Systems Affected: F/A-18 A-D, F/A-18 E/F, AV-8B				Modification Type: Service Life Extension				Related RDT&E PEs:					
Financial Plan	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total	
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	
Procurement													
<i>Modification Item 1 of 1:</i> Laser Maverick													
A Kits													
Non-Recurring													
1.1.1) AUR Installation Kits - Organic	696 / 67.171	172 / 17.934	64 / 4.588	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	932 / 89.693	
<i>Subtotal: Non-Recurring</i>	- / 67.171	- / 17.934	- / 4.588	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 89.693	
<i>Subtotal: Laser Maverick</i>	696 / 67.171	172 / 17.934	64 / 4.588	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	932 / 89.693	
<i>Subtotal: Procurement, All Modification Items</i>	- / 67.171	- / 17.934	- / 4.588	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 89.693	
Support (All Modification Items)													
2.1) Production Engineering Support	- / 6.484	- / 1.966	- / 0.350	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 8.800	
2.2) Integrated Logistics Support	- / 0.830	- / 0.100	- / 0.102	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 1.032	
<i>Subtotal: Support</i>	- / 7.314	- / 2.066	- / 0.452	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 9.832	
Installation													
<i>Subtotal: Installation</i>	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	
Total													
Total Cost (Procurement + Support + Installation)	74.485	20.000	5.040	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	99.525	

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Exhibit P-3a, Individual Modification: PB 2019 Navy					Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2			P-1 Line Item Number / Title: 2255 / Laser Maverick			Modification Number / Title: 1 / Laser Maverick	
ID Code (A=Service Ready, B=Not Service Ready) :				MDAP/MAIS Code:			
Modification Item 1 of 1: Laser Maverick							
Manufacturer Information							
Manufacturer Name: RAYTHEON Company				Manufacturer Location: TUCSON, AZ			
Administrative Leadtime (in Months): 3				Production Leadtime (in Months): 16			
Dates	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
Contract Dates	Oct 2017	Nov 2017					
Delivery Dates	Nov 2018	Apr 2019					

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy **Date:** February 2018

Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 02: Other Missiles / BSA 2: Tactical Missiles	P-1 Line Item Number / Title: 2264 / Stand Off Precision Guided Munitions (SOPGM)
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ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	408	24	19	31	-	31	-	-	-	-	-	482
Gross/Weapon System Cost (<i>\$ in Millions</i>)	50.401	3.316	3.122	11.378	0.000	11.378	0.000	0.000	0.000	0.000	-	68.217
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	50.401	3.316	3.122	11.378	0.000	11.378	0.000	0.000	0.000	0.000	-	68.217
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	50.401	3.316	3.122	11.378	0.000	11.378	0.000	0.000	0.000	0.000	-	68.217
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Dollars</i>)	110,289.22	122,416.67	124,842.11	115,806.45	-	115,806.45	-	-	-	-	-	111,821.58
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	123,531.86	138,166.67	164,315.79	367,032.26	-	367,032.26	-	-	-	-	-	141,529.05

Description:

Stand Off Precision Guided Munition (SOPGM) weapon, Griffin Missile, is the threshold weapon for the KC-130J Intelligence, Surveillance and Reconnaissance (ISR) Weapon Mission Kit USMC requirement. This weapon satisfies a portion of the required roll-on/roll-off capability inherent in the ISR Weapon Mission Kit.

Griffin is a rocket propelled missile and uses the Global Positioning System/Inertial Navigation System (GPS/INS) to navigate to the target vicinity and a semi-active laser (SAL) seeker for terminal guidance to target impact.

The Griffin will be used on KC130J (Alpha variant) and Cyclone class Patrol Coastal (PC) ships (Bravo variant). The Griffin Alpha variant is an air launched missile and the Bravo variant is a ship launched missile.

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy								Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 02: Other Missiles / BSA 2: Tactical Missiles						P-1 Line Item Number / Title: 2264 / Stand Off Precision Guided Munitions (SOPGM)				
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A			Other Related Program Elements: N/A				
Line Item MDAP/MAIS Code: N/A										
Exhibits Schedule					Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	1 / Stand Off Precision Guided Munitions (SOPGM)	P-5a			408 / 50.401	24 / 3.316	19 / 3.122	31 / 11.378	- / 0.000	31 / 11.378
P-40	Total Gross/Weapon System Cost				408 / 50.401	24 / 3.316	19 / 3.122	31 / 11.378	- / 0.000	31 / 11.378
<small>*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.</small>										
<small>Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.</small>										

Justification:
 Griffin Missile base funding is required to support Griffin Missile System Rapid Deployment Capability (RDC) program for the Patrol Coastal (PC) ships. The RDC provides an anti-surface missile capability to improve the ship's ability to defend against enemy small boat attacks.

FY 2019 base funding procures 15 Griffin Bravo variant missiles and funds Griffin Bravo Variant Production Support, which will address critical missile service life surveillance and environmental testing to support the service life assumption of 11 years. This increased service life is the basis for out-year reduced procurement quantities and ensures the fleet is properly equipped.

FY 2019 base funding also supports the procurement of 16 Griffin Alpha variant missiles for the certification and qualification of the AGM-176A Block III on the Harvest HAWK platform.

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Exhibit P-5, Cost Analysis: PB 2019 Navy												Date: February 2018						
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2						P-1 Line Item Number / Title: 2264 / Stand Off Precision Guided Munitions (SOPGM)						Item Number / Title [DODIC]: 1 / Stand Off Precision Guided Munitions (SOPGM)						
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:								
Resource Summary				Prior Years		FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total				
Procurement Quantity (Units in Each)				408		24		19		31		-		31				
Gross/Weapon System Cost (\$ in Millions)				50.401		3.316		3.122		11.378		0.000		11.378				
Less PY Advance Procurement (\$ in Millions)				-		-		-		-		-		-				
Net Procurement (P-1) (\$ in Millions)				50.401		3.316		3.122		11.378		0.000		11.378				
Plus CY Advance Procurement (\$ in Millions)				-		-		-		-		-		-				
Total Obligation Authority (\$ in Millions)				50.401		3.316		3.122		11.378		0.000		11.378				
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)																		
Initial Spares (\$ in Millions)				-		-		-		-		-		-				
Gross/Weapon System Unit Cost (\$ in Dollars)				123,531.86		138,166.67		164,315.79		367,032.26		-		367,032.26				
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
Flyaway Cost																		
Recurring Cost																		
1.1.1) Griffin All-Up-Rounds (AURs) - Bravo Variant ^(†) ⁽¹⁾	109,980.65	155	17.047	122,408.00	24	2.938	124,842.11	19	2.372	127,333.33	15	1.910	-	-	-	127,333.33	15	1.910
1.1.2) SM012 Griffin All-Up-Rounds (AURs) - Alpha Variant	110,478.26	253	27.951	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.1.3) SM012 Griffin All-Up-Rounds (AUR) - Alpha Variant ^(†)	-	-	-	-	-	-	-	-	-	105,000.00	16	1.680	-	-	-	105,000.00	16	1.680
Subtotal: Recurring Cost	-	-	44.998	-	-	2.938	-	-	2.372	-	-	3.590	-	-	-	-	-	3.590
Subtotal: Flyaway Cost	-	-	44.998	-	-	2.938	-	-	2.372	-	-	3.590	-	-	-	-	-	3.590
Support - GRIFFIN Cost																		
2.1) SM820 Training Equipment	-	-	0.155	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.2) Production Engineering Support - Griffin Bravo Variant ⁽²⁾	-	-	1.380	-	-	0.378	-	-	0.750	-	-	1.468	-	-	-	-	-	1.468
2.3) SM860 Integrated Logistics Support ⁽³⁾	-	-	0.150	-	-	-	-	-	-	-	-	1.300	-	-	-	-	-	1.300
2.4) SM850 Production Engineering Support ⁽⁴⁾	-	-	3.718	-	-	-	-	-	-	-	-	5.020	-	-	-	-	-	5.020

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Exhibit P-5, Cost Analysis: PB 2019 Navy		Date: February 2018
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2	P-1 Line Item Number / Title: 2264 / Stand Off Precision Guided Munitions (SOPGM)	Item Number / Title [DODIC]: 1 / Stand Off Precision Guided Munitions (SOPGM)
ID Code (A=Service Ready, B=Not Service Ready) :		MDAP/MAIS Code:

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
Subtotal: Support - GRIFFIN Cost	-	-	5.403	-	-	0.378	-	-	0.750	-	-	7.788	-	-	-	-	-	7.788
Gross/Weapon System Cost	123,531.86	408	50.401	138,166.67	24	3.316	164,315.79	19	3.122	367,032.26	31	11.378	-	-	0.000	367,032.26	31	11.378

(t) indicates the presence of a P-5a

Footnotes:

(1) US SOCOM awarded a sole source 5 years IDIQ in FY 2017 to cover purchases in FY 2017 through end of contract period of performance. Awarded 18 August 2017. Quantities, as well as inflation, are the cost drivers. Overall, quantities procured are expected to be significantly lower than previous years, which places the unit cost potentially in the upper range. Unit costs vary due to the different configurations being procured.

(2) Production engineering support line includes Griffin Missile engineering services efforts related to field and operations services; Anti-jam Protection Technology Receiver Global Positioning System (GPS); program management office technical support; and US SOCOM contract processing fee. Funding will be required to continue Griffin Missile Ordnance Assessment surveillance program which began in FY 2016 and will be on-going through FY 2019 to extend the Griffin Missile Service Life from 5 years to 11 years to support Fleet loadout requirements.

(3) SM860 Integrated Logistics Support funds support a one-time requirement to certify and qualify the AGM-176A Block III on the Harvest HAWK platform. These funds will provide 16 AURs for destructive testing, fund testing costs including flight hours, range space, telemetry, and other required support costs including associated administrative and contractor fees.

(4) SM850 Production Engineering Support funds support a one-time requirement to certify and qualify the AGM-176A Block III on the Harvest HAWK platform. These funds will provide 16 AURs for destructive testing, fund testing costs including flight hours, range space, telemetry, and other required support costs including associated administrative and contractor fees.

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Exhibit P-5a, Procurement History and Planning: PB 2019 Navy										Date: February 2018	
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2					P-1 Line Item Number / Title: 2264 / Stand Off Precision Guided Munitions (SOPGM)					Item Number / Title [DODIC]: 1 / Stand Off Precision Guided Munitions (SOPGM)	

Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$)	Specs Avail Now?	Date Revision Available	RFP Issue Date
1.1.1) Griffin All-Up-Rounds (AURs) - Bravo Variant		2012	Raytheon Missile System ⁽⁵⁾ / Tucson, AZ	SS / FFP	Huntsville	Jul 2012	Oct 2013	67	108,184.64	Y		Nov 2011
1.1.1) Griffin All-Up-Rounds (AURs) - Bravo Variant		2014	Raytheon Missile System ⁽⁵⁾ / Tucson, AZ	SS / IDIQ	Tampa	Mar 2014	Jun 2015	57	106,655.00	Y		Aug 2012
1.1.1) Griffin All-Up-Rounds (AURs) - Bravo Variant		2015 ⁽⁶⁾	Raytheon Missile System ⁽⁵⁾ / Tucson, AZ	SS / IDIQ	Tampa	Jan 2016	Apr 2017	14	120,008.00	Y		Jan 2015
1.1.1) Griffin All-Up-Rounds (AURs) - Bravo Variant		2016 ⁽⁷⁾	Raytheon Missile System ⁽⁵⁾ / Tucson, AZ	SS / IDIQ	Tampa	May 2016	Aug 2017	17	120,008.00	Y		Jan 2015
1.1.1) Griffin All-Up-Rounds (AURs) - Bravo Variant		2017 ⁽⁸⁾	Raytheon Missile System ⁽⁵⁾ / Tucson, AZ	SS / IDIQ	Tampa	Oct 2017	Jan 2019	24	122,408.00	Y		Dec 2016
1.1.1) Griffin All-Up-Rounds (AURs) - Bravo Variant		2018	Raytheon Missile System ⁽⁵⁾ / Tucson, AZ	SS / IDIQ	Tampa	Dec 2017	Mar 2019	19	124,842.11	Y		Dec 2016
1.1.1) Griffin All-Up-Rounds (AURs) - Bravo Variant		2019	Raytheon Missile System ⁽⁵⁾ / Tucson, AZ	SS / IDIQ	Tampa	Dec 2018	Mar 2020	15	127,333.33	Y		Dec 2016
1.1.3) SM012 Griffin All-Up-Rounds (AUR) - Alpha Variant		2019 ⁽⁹⁾	Raytheon Missile System / Tucson, AZ	SS / IDIQ	Tampa	Jan 2019	Jan 2020	16	105,000.00	Y		Dec 2016

Footnotes:

⁽⁵⁾ Beginning with FY 2016 contracts, Raytheon is no longer procuring Long Lead Items ahead of award - this changes extends delivery from 12 months to 15 months after award.

⁽⁶⁾ FY2015 missile procurement deliveries were completed ahead of schedule. Deliveries received January and March, 2017.

⁽⁷⁾ FY2016 missile procurement deliveries were completed ahead of schedule. Deliveries received March and June, 2017.

⁽⁸⁾ US SOCOM awarded a sole source 5 years IDIQ in August, 2017 to cover purchases in FY 2017 through contract period of performance.

⁽⁹⁾ FY 2019 Alpha Variant unit price is lower than Bravo variant unit price due to economy of scale with USAF procurements and differences in configuration.

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy **Date:** February 2018

Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 02: Other Missiles / BSA 2: Tactical Missiles	P-1 Line Item Number / Title: 2280 / Aerial Targets
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ID Code (A=Service Ready, B=Not Service Ready): B	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	3,664.095	138.784	124.757	137.137	6.500	143.637	144.298	181.031	178.105	181.844	Continuing	Continuing
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	3,664.095	138.784	124.757	137.137	6.500	143.637	144.298	181.031	178.105	181.844	Continuing	Continuing
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	3,664.095	138.784	124.757	137.137	6.500	143.637	144.298	181.031	178.105	181.844	Continuing	Continuing
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	1.316	6.051	1.551	-	1.551	4.280	3.713	4.077	4.159	Continuing	Continuing
Flyaway Unit Cost (<i>\$ in Thousands</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Thousands</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

The Aerial Targets program provides threat representative aerial targets for the test and evaluation (T&E) and fleet training events. Assets procured under this line item are used to simulate and replicate currently fielded subsonic and supersonic Anti-Ship Cruise Missile (ASCM) threats. The threat representative targets are used to test and evaluate Navy ship self-defense systems currently in development, and are required for the successful completion of independent operational test and evaluation prior to fielding the systems to the fleet. Some variants are also used as Fleet Training assets to support fleet readiness. All assets procured by the Aerial Targets program are a critical element in improving the warfighters ability to counter threats and improve threat readiness capability. This program is composed of four primary components: (1) Subsonic targets, (2) Other Targets, (3) QF-16 Full Scale Aerial Target (FSAT), and (4) Auxiliary/Augmenting Systems.

(1) Subsonic targets

The Subsonic targets program is composed of continuing subsonic production/modification programs to include the BQM-177A Subsonic Aerial Target (SSAT) and avionics upgrade kits for the BQM-34S (BQM Target Modification). The BQM-177A SSAT provides dynamic, high-subsonic, sea-skimming, ASCM threat emulation for testing of USN ship defensive weapon systems and other surface-to-air systems and will replace current BQM-74E subsonic targets with increased capabilities. The BQM-34S is a jet-powered, high subsonic speed aerial target and the modification effort allows for the continued utilization of current BQM-34S inventories which are required to quickly mitigate critical subsonic inventory shortfall(s) to support Fleet Live-Fire training until the BQM-177A SSAT is fielded. Assets may be recovered and reused depending on the objectives of the event. Other subsonic targets include the BQM-74 and various Unmanned Aerial Vehicle (UAV) platforms to replicate emerging UAV threats.

(2) Other Targets

The Other Targets program is composed of a continuing powered supersonic target production/modification program, the GQM-163A Supersonic Sea Skimming Target (SSST). The SSST is a non-recoverable supersonic sea skimming aerial target, capable of speeds in excess of Mach 2.5 and cruise altitudes from 15 to 66 ft. SSST replicates a family of supersonic sea skimming, ASCM threats to meet critical T&E requirements of USN ship self-defense systems. Additionally, SSST has successfully demonstrated a higher altitude diving threat profile capability. Funding may also be used to procure other supersonic targets in support of unique and emerging threat simulations.

(3) Full Scale Aerial Target (FSAT)

The QF-16 FSAT is an Air Force-led program providing a 4th generation, full scale, threat representative target providing a replacement for the FSAT/QF-4. The QF-16 FSAT is a converted F-16 aircraft that provides a supersonic, high altitude, remote-controlled aerial target. This target has full command and control capability through normal flight envelopes. The QF-16 FSAT target presentations supports aircraft and weapons systems testing and development, including that of the Joint Strike Fighter, AIM-9X Sidewinder missile, AIM-120 Advanced Medium Range Air-to-Air Missile, and Standard Missile-6.

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy		Date: February 2018
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 02: Other Missiles / BSA 2: Tactical Missiles		P-1 Line Item Number / Title: 2280 / Aerial Targets
ID Code (A=Service Ready, B=Not Service Ready): B	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: N/A		
<p>(4) Aux/Aug System Targets</p> <p>The Auxiliary/Augmenting Systems includes various procurements of target ground control systems required to safely operate all aerial targets and threat simulator(s) payloads that replicate electronic attack and active emitters found on current threat missiles. The Target Mission Support Systems program provides target control and scoring, location, and navigation of targets for Fleet training and weapons systems test and evaluation. The Target Threat Simulation Program, installed on subsonic or supersonic targets as required, replicates various threats dependent upon the objectives of the test and evaluation event(s). When the target is destroyed, these assets are consumed and require replacement. As requirements to establish readiness capability increase, it is critical to maintain sufficient inventory of the Auxiliary/Augmenting Systems & Target Threat Simulation devices. Avionics equipment, common to all aerial targets, is also procured under Aux/Aug System Targets.</p>		

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy								Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 02: Other Missiles / BSA 2: Tactical Missiles						P-1 Line Item Number / Title: 2280 / Aerial Targets				
ID Code (A=Service Ready, B=Not Service Ready): B			Program Elements for Code B Items: N/A			Other Related Program Elements: N/A				
Line Item MDAP/MAIS Code: N/A										
Exhibits Schedule					Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	1 / Subsonic	P-5a, P-21			- / 703.643	- / 37.291	- / 39.783	- / 47.488	- / 0.000	- / 47.488
P-5	2 / MSST				- / 0.967	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000
P-5	3 / Other Targets [Other]	P-5a, P-21			- / 537.719	- / 88.128	- / 66.943	- / 59.852	- / 6.500	- / 66.352
P-5	4 / Full Scale Aerial Target	P-5a, P-21			- / 0.000	- / 0.000	- / 0.000	- / 12.791	- / 0.000	- / 12.791
P-5	5 / Aux / Aug System Targets				- / 2,421.766	- / 13.365	- / 18.031	- / 17.006	- / 0.000	- / 17.006
P-40	Total Gross/Weapon System Cost				- / 3,664.095	- / 138.784	- / 124.757	- / 137.137	- / 6.500	- / 143.637
<p>*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.</p> <p>Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.</p>										
<p>Justification: The FY 2019 funding request was reduced by \$0.579 million to reflect the Department of Navy's effort to support the Office of Management and Budget directed reforms for Efficiency and Effectiveness that include a lean, accountable, more efficient government.</p> <p>Subsonic FY 2019 funding supports the increased procurement of the BQM-177A Subsonic Aerial Target (SSAT) Full Rate Production (FRP) 1 contract, as well as associated kits and equipment. Funds also support continued procurement/installation of avionics upgrade kits for modification to the BQM-34S targets and other subsonic target hardware.</p> <p>Other Targets FY 2019 funding is required for the procurement, production, and modification of supersonic targets. Funds will support execution of the GQM-163A Supersonic Sea Skimming Target (SSST) FRP 13 contract and other supersonic targets.</p> <p>Full Scale Aerial Targets In FY 2019, funding for the QF-16 Full Scale Aerial Target (FSAT) transitions from RDT&E,N to WP,N. FY 2019 funding is required for the procurement, production, and modification of the QF-16 FSAT. Funds will support execution of the QF-16 FSAT Lot 6 contract, associated support, and other full scale aerial targets.</p> <p>Aux/Aug System Targets FY 2019 funding is required for Auxiliary/Augmenting Systems to continue production of various target command and control systems, scoring equipment, location, identification, and navigation equipment required to safely operate all aerial targets. The targets require production of various threat simulator(s) payloads that provide affordable high fidelity simulation environments of foreign threat electronic attack and threat radar emissions. Target threat simulation requires various electronic countermeasures equipment and active emitter augmentation equipment.</p> <p>OCO: FY 2019 Overseas Contingency Operations (OCO) funding is required for the procurement, production, and modification of supersonic targets for expenditure in direct support of deployed forces readiness for combat operations in theater. These expenditures are used to ensure combat readiness of 6th Fleet deployed forces (i.e. Formidable Shield Exercise).</p>										

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Exhibit P-5, Cost Analysis: PB 2019 Navy												Date: February 2018						
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2						P-1 Line Item Number / Title: 2280 / Aerial Targets						Item Number / Title [DODIC]: 1 / Subsonic						
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:								
Resource Summary				Prior Years		FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total				
Procurement Quantity <i>(Units in Each)</i>				-		-		-		-		-		-				
Gross/Weapon System Cost <i>(\$ in Millions)</i>				703.643		37.291		39.783		47.488		0.000		47.488				
Less PY Advance Procurement <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Net Procurement (P-1) <i>(\$ in Millions)</i>				703.643		37.291		39.783		47.488		0.000		47.488				
Plus CY Advance Procurement <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Total Obligation Authority <i>(\$ in Millions)</i>				703.643		37.291		39.783		47.488		0.000		47.488				
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)																		
Initial Spares <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Gross/Weapon System Unit Cost <i>(\$ in Thousands)</i>				-		-		-		-		-		-				
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Flyaway - Subsonic Target Hardware Cost																		
Recurring Cost																		
1.1.1) EM031 BQM-177A ^(†) (1)	-	-	0.000	795.354	31	24.656	636.288	45	28.633	651.593	57	37.141	-	-	0.000	651.593	57	37.141
1.1.2) EM441 Install/ Mission Kits ⁽²⁾	-	-	11.684	-	-	6.703	-	-	4.734	-	-	3.873	-	-	0.000	-	-	3.873
1.1.3) EM452 BQM Target Modification	-	-	6.140	-	-	0.273	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
Subtotal: Recurring Cost	-	-	17.824	-	-	31.632	-	-	33.367	-	-	41.014	-	-	0.000	-	-	41.014
Subtotal: Flyaway - Subsonic Target Hardware Cost	-	-	17.824	-	-	31.632	-	-	33.367	-	-	41.014	-	-	0.000	-	-	41.014
Flyaway - Subsonic Targets Nonrecurring & Ancillary Equipment Cost																		
Non Recurring Cost																		
2.1.1) EM540 Technical Support	-	-	1.427	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
Subtotal: Non Recurring Cost	-	-	1.427	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
Subtotal: Flyaway - Subsonic Targets Nonrecurring & Ancillary Equipment Cost	-	-	1.427	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
Flyaway - Subsonic Target Launch Hardware Cost																		
Recurring Cost																		

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Exhibit P-5, Cost Analysis: PB 2019 Navy												Date: February 2018						
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2						P-1 Line Item Number / Title: 2280 / Aerial Targets						Item Number / Title [DODIC]: 1 / Subsonic						
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:								
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
3.1.1) EM701 Subsonic Ground Equipment ⁽³⁾	-	-	6.347	-	-	3.570	-	-	3.594	-	-	3.336	-	-	0.000	-	-	3.336
Subtotal: Recurring Cost	-	-	6.347	-	-	3.570	-	-	3.594	-	-	3.336	-	-	0.000	-	-	3.336
Subtotal: Flyaway - Subsonic Target Launch Hardware Cost	-	-	6.347	-	-	3.570	-	-	3.594	-	-	3.336	-	-	0.000	-	-	3.336
Flyaway - Subsonic Prior Year/Not In Production Cost																		
Non Recurring Cost																		
4.1.1) Prior Year/Not In Production Cost Subsonic	-	-	668.340	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
Subtotal: Non Recurring Cost	-	-	668.340	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
Subtotal: Flyaway - Subsonic Prior Year/Not In Production Cost	-	-	668.340	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
Support - Subsonic Production Support Cost																		
5.1) EM851 Subsonic Production Engineering Support ⁽⁴⁾	-	-	7.826	-	-	1.082	-	-	1.462	-	-	1.757	-	-	0.000	-	-	1.757
5.2) EM861 Subsonic Integrated Logistic Support	-	-	1.543	-	-	0.707	-	-	1.060	-	-	1.081	-	-	0.000	-	-	1.081
5.3) EM871 Subsonic Documentation	-	-	0.336	-	-	0.300	-	-	0.300	-	-	0.300	-	-	0.000	-	-	0.300
Subtotal: Support - Subsonic Production Support Cost	-	-	9.705	-	-	2.089	-	-	2.822	-	-	3.138	-	-	0.000	-	-	3.138
Gross/Weapon System Cost	-	-	703.643	-	-	37.291	-	-	39.783	-	-	47.488	-	-	0.000	-	-	47.488
(t) indicates the presence of a P-5a																		
Footnotes:																		
(1) EM031 BQM-177A - The production contract in FY2017 and FY2018 were pre-priced options on the Engineering and Development contract. FY2019 will be a new Firm, Fixed Price contract.																		
(2) EM441 Install/Mission Kits: BQM-177A Mission Kits are required to support fleet operations and are used to replicate various threats. Mission kit quantities vary depending on fleet test & evaluation training requirements and are not procured on a one for one basis with air vehicle quantities. The kit procurements are based on a projection of the user demand which is based on the mission profiles required for specific test objectives. Each type of kit is priced differently so the total costs of the kits is not a direct reflection on the quantity of kits being procured.																		
(3) EM701 Subsonic ground equipment includes peculiar support equipment and flight presentation consumables.																		

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Exhibit P-5, Cost Analysis: PB 2019 Navy		Date: February 2018
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2	P-1 Line Item Number / Title: 2280 / Aerial Targets	Item Number / Title [DODIC]: 1 / Subsonic
ID Code (A=Service Ready, B=Not Service Ready) :		MDAP/MAIS Code:
<p>(4) Subsonic production engineering support increased from FY 2018 to FY 2019 due to additional support required to facilitate the transition from LRIP to FRP. This includes in-depth technical reviews of contractor proposals and oversight to ensure system requirements are adequately addressed.</p>		

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Exhibit P-5a, Procurement History and Planning: PB 2019 Navy								Date: February 2018				
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2				P-1 Line Item Number / Title: 2280 / Aerial Targets				Item Number / Title [DODIC]: 1 / Subsonic				

Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$ K)	Specs Avail Now?	Date Revision Available	RFP Issue Date
1.1.1) EM031 BQM-177A ^(†)		2017 ⁽⁵⁾	CEI / Sacramento, CA / CEI	SS / FFP	NAVAIR	Jun 2017	Jun 2018	31	795.354	Y		Apr 2017
1.1.1) EM031 BQM-177A ^(†)		2018 ⁽⁶⁾	CEI / Sacramento, CA / CEI	SS / FFP	NAVAIR	Feb 2018	Feb 2019	45	636.288	Y		Nov 2017
1.1.1) EM031 BQM-177A ^(†)		2019 ⁽⁷⁾	TBD / TBD	TBD	NAVAIR	Jan 2019	Jan 2020	57	651.593	Y		Mar 2018

^(†) indicates the presence of a P-21

Footnotes:

⁽⁵⁾ The FY 2017 & FY 2018 procurement contracts are pre-negotiated options on the current Engineering and Manufacturing Development (EMD) contract. The RFP Issue date refers to release of a Letter of Intent to exercise these options.

⁽⁶⁾ The FY 2017 & FY 2018 procurement contracts are pre-negotiated options on the current Engineering and Manufacturing Development (EMD) contract. The RFP Issue date refers to release of a Letter of Intent to exercise these options.

⁽⁷⁾ Market research is underway to support an informed decision on the acquisition strategy for Full Rate Production in FY 2019.

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Exhibit P-21, Production Schedule: PB 2019 Navy																				Date: February 2018																																							
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2								P-1 Line Item Number / Title: 2280 / Aerial Targets												Item Number / Title [DODIC]: 1 / Subsonic																																							
Cost Elements <i>(Units in Each)</i>							Fiscal Year 2017												Fiscal Year 2018												BALANCE																												
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2016	BAL DUE AS OF 1 OCT	Calendar Year 2017												Calendar Year 2018																																								
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP																													
1.1.1) EM031 BQM-177A ⁽¹⁾																																																											
	1	2017	NAVY	31	0	31													A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	4	4	4	15																					
	1	2018	NAVY	45	0	45																									A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	45													
	2	2019	NAVY	57	0	57																																																					57
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP																													

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Exhibit P-21, Production Schedule: PB 2019 Navy																							Date: February 2018								
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2										P-1 Line Item Number / Title: 2280 / Aerial Targets													Item Number / Title [DODIC]: 1 / Subsonic								
Cost Elements <i>(Units in Each)</i>							Fiscal Year 2019											Fiscal Year 2020													BALANCE
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2018	BAL DUE AS OF 1 OCT	Calendar Year 2019											Calendar Year 2020													
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
1.1.1) EM031 BQM-177A ⁽¹⁾																															
	1	2017	NAVY	31	16	15	4	4	3	3	1																	0			
	1	2018	NAVY	45	0	45	-	-	-	-	2	3	4	4	4	4	4	4	4	4	4							0			
	2	2019	NAVY	57	0	57					A	-	-	-	-	-	-	-	-	-	2	5	5	5	5	5	5	5	5	15	
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	

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LI 2280 - Aerial Targets
Navy

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Exhibit P-21, Production Schedule: PB 2019 Navy									Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2					P-1 Line Item Number / Title: 2280 / Aerial Targets				Item Number / Title [DODIC]: 1 / Subsonic			
MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Year)			Procurement Leadtime (Months)							
		MSR For 2019	1-8-5 For 2019	MAX For 2019	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	CEI / Sacramento, CA - CEI	30	45	70	0	9	12	21	0	4	12	16
2	TBD - TBD	30	45	70	0	4	12	16	0	4	12	16
"A" in the Delivery Schedule indicates the Contract Award Date. Note: Due to space limitations, quantities in the Exhibit P-21 delivery calendar are truncated and rounded based on the maximum quantity in the calendar as follows. If the maximum quantity is less than or equal to than 9,999, all quantities are shown as each. If the maximum quantity is between 10,000 and 999,999 all quantities are shown in thousands. If the maximum quantity is between 1,000,000 and 999,999,999 all quantities are shown in millions (rounded to the nearest thousand).If the maximum quantity is equal or greater than 1,000,000,000 all quantities are shown in billions (rounded to the nearest million).												

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Exhibit P-5, Cost Analysis: PB 2019 Navy													Date: February 2018								
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2							P-1 Line Item Number / Title: 2280 / Aerial Targets						Item Number / Title [DODIC]: 2 / MSST								
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:											
Resource Summary				Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
Procurement Quantity <i>(Units in Each)</i>				-			-			-			-			-			-		
Gross/Weapon System Cost <i>(\$ in Millions)</i>				0.967			0.000			0.000			0.000			0.000			0.000		
Less PY Advance Procurement <i>(\$ in Millions)</i>				-			-			-			-			-			-		
Net Procurement (P-1) <i>(\$ in Millions)</i>				0.967			0.000			0.000			0.000			0.000			0.000		
Plus CY Advance Procurement <i>(\$ in Millions)</i>				-			-			-			-			-			-		
Total Obligation Authority <i>(\$ in Millions)</i>				0.967			0.000			0.000			0.000			0.000			0.000		
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)																					
Initial Spares <i>(\$ in Millions)</i>				-			-			-			-			-			-		
Gross/Weapon System Unit Cost <i>(\$ in Thousands)</i>				-			-			-			-			-			-		
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																					
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total					
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)			
Flyaway - MSST Target Hardware Cost																					
Recurring Cost																					
1.1.1) EMA01 GQM-173A (MSST) ⁽⁸⁾	-	-	0.967	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000			
Subtotal: Recurring Cost	-	-	0.967	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000			
Subtotal: Flyaway - MSST Target Hardware Cost	-	-	0.967	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000			
Gross/Weapon System Cost	-	-	0.967	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000			
Footnotes:																					
⁽⁸⁾ EMA01: The Navy canceled development of the GQM-173A Multi-Stage Supersonic Target (MSST) program and notified Congress on September 25, 2015. All other GQM-173A (MSST) procurement cost elements that did not incur any prior year costs have been zeroed with the termination of the program.																					

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Exhibit P-5, Cost Analysis: PB 2019 Navy													Date: February 2018								
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2							P-1 Line Item Number / Title: 2280 / Aerial Targets						Item Number / Title [DODIC]: 3 / Other Targets [Other]								
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:											
Resource Summary				Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
Procurement Quantity <i>(Units in Each)</i>				-			-			-			-			-			-		
Gross/Weapon System Cost <i>(\$ in Millions)</i>				537.719			88.128			66.943			59.852			6.500			66.352		
Less PY Advance Procurement <i>(\$ in Millions)</i>				-			-			-			-			-			-		
Net Procurement (P-1) <i>(\$ in Millions)</i>				537.719			88.128			66.943			59.852			6.500			66.352		
Plus CY Advance Procurement <i>(\$ in Millions)</i>				-			-			-			-			-			-		
Total Obligation Authority <i>(\$ in Millions)</i>				537.719			88.128			66.943			59.852			6.500			66.352		
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)																					
Initial Spares <i>(\$ in Millions)</i>				-			-			-			-			-			-		
Gross/Weapon System Unit Cost <i>(\$ in Thousands)</i>				-			-			-			-			-			-		
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																					
Cost Elements		Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total				
		Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)		
Flyaway - Other Targets Hardware Cost																					
Recurring Cost																					
1.1.1) EM203 GQM-163A (SSST) ^(†) (9)		2,766.659	85	235.166	3,328.667	24	79.888	3,543.706	17	60.243	3,771.429	14	52.800	3,771.429	1	3.771	3,771.429	15	56.571		
Subtotal: Recurring Cost		-	-	235.166	-	-	79.888	-	-	60.243	-	-	52.800	-	-	3.771	-	-	56.571		
Subtotal: Flyaway - Other Targets Hardware Cost		-	-	235.166	-	-	79.888	-	-	60.243	-	-	52.800	-	-	3.771	-	-	56.571		
Flyaway - Hardware-Other Targets Cost																					
Recurring Cost																					
2.1.1) EM442 Install/ Mission Kits ⁽¹⁰⁾		-	-	18.159	-	-	3.320	-	-	2.130	-	-	2.615	-	-	1.810	-	-	4.425		
Subtotal: Recurring Cost		-	-	18.159	-	-	3.320	-	-	2.130	-	-	2.615	-	-	1.810	-	-	4.425		
Subtotal: Flyaway - Hardware-Other Targets Cost		-	-	18.159	-	-	3.320	-	-	2.130	-	-	2.615	-	-	1.810	-	-	4.425		
Flyaway - Other Targets Launch Hardware Cost																					
Recurring Cost																					
3.1.1) EM702 Ground Equipment		-	-	3.545	-	-	1.410	-	-	1.040	-	-	0.852	-	-	0.529	-	-	1.381		
Subtotal: Recurring Cost		-	-	3.545	-	-	1.410	-	-	1.040	-	-	0.852	-	-	0.529	-	-	1.381		
Subtotal: Flyaway - Other Targets Launch Hardware Cost		-	-	3.545	-	-	1.410	-	-	1.040	-	-	0.852	-	-	0.529	-	-	1.381		

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Exhibit P-5, Cost Analysis: PB 2019 Navy													Date: February 2018					
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2						P-1 Line Item Number / Title: 2280 / Aerial Targets							Item Number / Title [DODIC]: 3 / Other Targets [Other]					
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:								
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Flyaway - GQM-163A Long Lead Item Cost																		
Recurring Cost																		
4.1.1) Long Lead Credit	-	-	-3.397	-	-	-0.740	-	-	-0.600	-	-	-0.590	-	-	0.000	-	-	-0.590
4.1.2) Long Lead Components ⁽¹¹⁾	-	-	3.897	-	-	0.600	-	-	0.590	-	-	0.565	-	-	0.000	-	-	0.565
Subtotal: Recurring Cost	-	-	0.500	-	-	-0.140	-	-	-0.010	-	-	-0.025	-	-	0.000	-	-	-0.025
Subtotal: Flyaway - GQM-163A Long Lead Item Cost	-	-	0.500	-	-	-0.140	-	-	-0.010	-	-	-0.025	-	-	0.000	-	-	-0.025
Flyaway - Other Targets FY06 and PRIOR Cost																		
Non Recurring Cost																		
5.1.1) Non Recurring Cost	-	-	250.054	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
Subtotal: Non Recurring Cost	-	-	250.054	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
Subtotal: Flyaway - Other Targets FY06 and PRIOR Cost	-	-	250.054	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
Support - Other Targets Support Cost																		
6.1) EM852 Production Engineering Support	-	-	30.295	-	-	3.650	-	-	3.540	-	-	3.610	-	-	0.390	-	-	4.000
Subtotal: Support - Other Targets Support Cost	-	-	30.295	-	-	3.650	-	-	3.540	-	-	3.610	-	-	0.390	-	-	4.000
Gross/Weapon System Cost	-	-	537.719	-	-	88.128	-	-	66.943	-	-	59.852	-	-	6.500	-	-	66.352

(†) indicates the presence of a P-5a

Footnotes:

(9) EM203 GQM-163A (SSST): The estimated FY 2019 unit cost increased from the estimated FY 2018 cost due to the lower procurement quantity.

(10) EM442 Install/Mission Kits: Mission kit quantities vary depending on fleet test & evaluation training requirements and are not procured on a one for one basis with air vehicle quantities. The kit procurements are based on a projection of the user demand which is based on the mission profiles required for specific test objectives. Each type of kit is priced differently so the total costs of the kits is not a direct reflection on the quantity of kits being procured.

(11) Long lead component funds are required for the procurement of D6AC steel for production of GQM-163A ducted rocket housings. The FY 2019 long lead procurement is for the FY 2020 target buy.

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Exhibit P-5a, Procurement History and Planning: PB 2019 Navy								Date: February 2018				
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2			P-1 Line Item Number / Title: 2280 / Aerial Targets					Item Number / Title [DODIC]: 3 / Other Targets [Other]				
Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$ K)	Specs Avail Now?	Date Revision Available	RFP Issue Date
1.1.1) EM203 GQM-163A (SSST) ^(†)		2015 ⁽¹²⁾	ORBITAL SCIENCES (13) / CHANDLER AZ	SS / FFP	NAVAIR	Dec 2014	Aug 2018	5	4,688.000	Y		Mar 2014
1.1.1) EM203 GQM-163A (SSST) ^(†)		2016 ⁽¹⁴⁾	ORBITAL SCIENCES (13) / CHANDLER AZ	SS / FFP	NAVAIR	Jul 2016	Mar 2019	5	4,410.000	Y		Feb 2016
1.1.1) EM203 GQM-163A (SSST) ^(†)		2017 ⁽¹⁵⁾	ORBITAL SCIENCES (13) / CHANDLER AZ	SS / FFP	NAVAIR	Jan 2018	Mar 2020	24	3,328.667	Y		Dec 2016
1.1.1) EM203 GQM-163A (SSST) ^(†)		2018 ⁽¹⁶⁾	ORBITAL SCIENCES (13) / CHANDLER AZ	SS / FFP	NAVAIR	Apr 2018	Mar 2021	17	3,543.706	Y		Dec 2016
1.1.1) EM203 GQM-163A (SSST) ^(†)		2019 ⁽¹⁷⁾	ORBITAL SCIENCES (13) / CHANDLER AZ	SS / FFP	NAVAIR	Jan 2019	Jan 2022	14	3,771.429	Y		Dec 2016
1.1.1) EM203 GQM-163A (SSST) ^(†)	✓	2019 ⁽¹⁸⁾	ORBITAL SCIENCES (13) / CHANDLER AZ	SS / FFP	NAVAIR	Jan 2019	Jan 2022	1	3,771.429	Y		Dec 2016

^(†) indicates the presence of a P-21

Footnotes:

⁽¹²⁾ FRP9

⁽¹³⁾ The maximum production rate is currently limited to 24 units due to the availability of Government Furnished Property (GFP). The program is exploring GFP alternatives in order to increase the maximum procurement rate to 32 units per year.

⁽¹⁴⁾ FRP10

⁽¹⁵⁾ FRP11 will include a base plus pre-negotiated options for the following two production lots (FRP12 and FRP13).

⁽¹⁶⁾ FRP12 is expected to be a pre-negotiated option that is negotiated in conjunction with the FRP11 contract.

⁽¹⁷⁾ FRP13 is expected to be a pre-negotiated option that is negotiated in conjunction with the FRP11 contract.

⁽¹⁸⁾ FRP13 is expected to be a pre-negotiated option that is negotiated in conjunction with the FRP11 contract.

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Exhibit P-21, Production Schedule: PB 2019 Navy																							Date: February 2018													
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2										P-1 Line Item Number / Title: 2280 / Aerial Targets													Item Number / Title [DODIC]: 3 / Other Targets [Other]													
Cost Elements (Units in Each)							Fiscal Year 2015													Fiscal Year 2016													BALANCE			
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2014	BAL DUE AS OF 1 OCT				Calendar Year 2015													Calendar Year 2016													
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP						
1.1.1) EM203 GQM-163A (SSST) ⁽⁹⁾																																				
Prior Years Deliveries: 75																																				
	1	2015	NAVY	5	0	5			A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5				
	1	2015	FMS ^(‡)	2	0	2			A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2				
	1	2015	Total	7	0	7			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7				
	1	2016	NAVY	5	0	5																							A -	-	-	5				
	1	2016	FMS ^(‡)	3	0	3																							A -	-	-	3				
	1	2016	Total	8	0	8																							-	-	-	8				
	1	2017	NAVY	24	0	24																										24				
	1	2018	NAVY	17	0	17																										17				
	1	2018	FMS ^(‡)	3	0	3																										3				
	1	2018	Total	20	0	20																										20				
	1	2019	NAVY	14	0	14																										14				
	1	2019	FMS ^(‡)	2	0	2																										2				
	1	2019	Total Base	16	0	16																										16				
✓	1	2019	NAVY	1	0	1																										1				
									OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP				

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Exhibit P-21, Production Schedule: PB 2019 Navy																							Date: February 2018												
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2							P-1 Line Item Number / Title: 2280 / Aerial Targets															Item Number / Title [DODIC]: 3 / Other Targets [Other]													
Cost Elements (Units in Each)							Fiscal Year 2017												Fiscal Year 2018												B A L A N C E				
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEP T P R I O R T O 1 O C T 2016	BAL DUE AS OF 1 OCT	Calendar Year 2017												Calendar Year 2018																
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P					
1.1.1) EM203 GQM-163A (SSST) ⁽⁹⁾																																			
Prior Years Deliveries: 75																																			
	1	2015	NAVY	5	0	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	3			
	1	2015	FMS ^(‡)	2	0	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2			
	1	2015	Total	7	0	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	5			
	1	2016	NAVY	5	0	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5			
	1	2016	FMS ^(‡)	3	0	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3			
	1	2016	Total	8	0	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8			
	1	2017	NAVY	24	0	24																A -	-	-	-	-	-	-	-	-	-	-	-	24	
	1	2018	NAVY	17	0	17																				A -	-	-	-	-	-	-	-	-	17
	1	2018	FMS ^(‡)	3	0	3																				A -	-	-	-	-	-	-	-	-	3
	1	2018	Total	20	0	20																				-	-	-	-	-	-	-	-	-	20
	1	2019	NAVY	14	0	14																										14			
	1	2019	FMS ^(‡)	2	0	2																										2			
	1	2019	Total Base	16	0	16																										16			
✓	1	2019	NAVY	1	0	1																										1			
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P					

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Exhibit P-21, Production Schedule: PB 2019 Navy																				Date: February 2018														
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2										P-1 Line Item Number / Title: 2280 / Aerial Targets										Item Number / Title [DODIC]: 3 / Other Targets [Other]														
Cost Elements (Units in Each)							Fiscal Year 2019										Fiscal Year 2020													BALANCE				
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2018	BAL DUE AS OF 1 OCT	Calendar Year 2019															Calendar Year 2020												
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG		SEP			
1.1.1) EM203 GQM-163A (SSST) ⁽⁹⁾																																		
Prior Years Deliveries: 75																																		
	1	2015	NAVY		5	2	3	1	1	1	-	-																				0		
	1	2015	FMS ^(‡)		2	0	2	-	-	-	1	1																				0		
	1	2015	Total		7	2	5	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0			
	1	2016	NAVY		5	0	5	-	-	-	-	-	1	1	1	1	1	-	-	-													0	
	1	2016	FMS ^(‡)		3	0	3	-	-	-	-	-	-	-	-	1	1	1													0			
	1	2016	Total		8	0	8	-	-	-	-	-	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	0			
	1	2017	NAVY		24	0	24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	2	2	2	2	2	2	10			
	1	2018	NAVY		17	0	17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17				
	1	2018	FMS ^(‡)		3	0	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3				
	1	2018	Total		20	0	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20				
	1	2019	NAVY		14	0	14				A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14				
	1	2019	FMS ^(‡)		2	0	2				A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2				
	1	2019	Total Base		16	0	16				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16				
✓	1	2019	NAVY		1	0	1				A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1				
								OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP			

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Exhibit P-21, Production Schedule: PB 2019 Navy																				Date: February 2018																
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2										P-1 Line Item Number / Title: 2280 / Aerial Targets										Item Number / Title [DODIC]: 3 / Other Targets [Other]																
Cost Elements (Units in Each)							Fiscal Year 2021													Fiscal Year 2022													BALANCE			
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2020	BAL DUE AS OF 1 OCT	Calendar Year 2021													Calendar Year 2022																
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP						
1.1.1) EM203 GQM-163A (SSST) ⁽⁹⁾																																				
Prior Years Deliveries: 75																																				
	1	2015	NAVY		5	5	0																											0		
	1	2015	FMS ^(‡)		2	2	0																											0		
	1	2015	Total		7	7	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0					
	1	2016	NAVY		5	5	0																											0		
	1	2016	FMS ^(‡)		3	3	0																											0		
	1	2016	Total		8	8	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0					
	1	2017	NAVY		24	14	10	2	2	2																										0
	1	2018	NAVY		17	0	17	-	-	-	-	-	2	2	2	2	2	2	2	1	1	1											0			
	1	2018	FMS ^(‡)		3	0	3	-	-	-	-	-	-	-	-	-	-	-	1	1	1											0				
	1	2018	Total		20	0	20	-	-	-	-	-	2	2	2	2	2	2	2	2	2	-	-	-	-	-	-	-	-	-	-	0				
	1	2019	NAVY		14	0	14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	2	1	1	1	1	1	1	4					
	1	2019	FMS ^(‡)		2	0	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	0					
	1	2019	Total Base		16	0	16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	2	1	1	1	2	2	1	4					
✓	1	2019	NAVY		1	0	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1											0			
								OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP					

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Exhibit P-21, Production Schedule: PB 2019 Navy																			Date: February 2018																
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2							P-1 Line Item Number / Title: 2280 / Aerial Targets													Item Number / Title [DODIC]: 3 / Other Targets [Other]															
Cost Elements (Units in Each)							Fiscal Year 2023													Fiscal Year 2024													BALANCE		
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2022	BAL DUE AS OF 1 OCT	Calendar Year 2023													Calendar Year 2024															
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP					
1.1.1) EM203 GQM-163A (SSST) ⁽⁹⁾																																			
Prior Years Deliveries: 75																																			
	1	2015	NAVY		5	5	0																											0	
	1	2015	FMS ^(‡)		2	2	0																											0	
	1	2015	Total		7	7	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0				
	1	2016	NAVY		5	5	0																											0	
	1	2016	FMS ^(‡)		3	3	0																											0	
	1	2016	Total		8	8	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0				
	1	2017	NAVY		24	24	0																											0	
	1	2018	NAVY		17	17	0																											0	
	1	2018	FMS ^(‡)		3	3	0																											0	
	1	2018	Total		20	20	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0				
	1	2019	NAVY		14	10	4	1	2	1																									0
	1	2019	FMS ^(‡)		2	2	0	-	-	-																									0
	1	2019	Total Base		16	12	4	1	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0				
✓	1	2019	NAVY		1	1	0																											0	
								OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP				

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Exhibit P-21, Production Schedule: PB 2019 Navy							Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2				P-1 Line Item Number / Title: 2280 / Aerial Targets				Item Number / Title [DODIC]: 3 / Other Targets [Other]	

MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Year)			Procurement Leadtime (Months)							
		MSR For 2019	1-8-5 For 2019	MAX For 2019	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	ORBITAL SCIENCES ⁽¹³⁾ - CHANDLER AZ	6	21	24	10	3	25	28	0	4	31	35

(‡) Delivery rows marked with this symbol indicate that they are funded through a separate Line Item. See the respective components' exhibits for details, including the full delivery schedule.

"A" in the Delivery Schedule indicates the Contract Award Date.

Note: Due to space limitations, quantities in the Exhibit P-21 delivery calendar are truncated and rounded based on the maximum quantity in the calendar as follows. If the maximum quantity is less than or equal to than 9,999, all quantities are shown as each. If the maximum quantity is between 10,000 and 999,999 all quantities are shown in thousands. If the maximum quantity is between 1,000,000 and 999,999,999 all quantities are shown in millions (rounded to the nearest thousand). If the maximum quantity is equal or greater than 1,000,000,000 all quantities are shown in billions (rounded to the nearest million).

Footnotes:

⁽¹³⁾ The maximum production rate is currently limited to 24 units due to the availability of Government Furnished Property (GFP). The program is exploring GFP alternatives in order to increase the maximum procurement rate to 32 units per year.

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Exhibit P-5, Cost Analysis: PB 2019 Navy												Date: February 2018						
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2						P-1 Line Item Number / Title: 2280 / Aerial Targets						Item Number / Title [DODIC]: 4 / Full Scale Aerial Target						
ID Code (A=Service Ready, B=Not Service Ready) :									MDAP/MAIS Code:									
Resource Summary				Prior Years		FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total				
Procurement Quantity <i>(Units in Each)</i>				-		-		-		-		-		-				
Gross/Weapon System Cost <i>(\$ in Millions)</i>				0.000		0.000		0.000		12.791		0.000		12.791				
Less PY Advance Procurement <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Net Procurement (P-1) <i>(\$ in Millions)</i>				0.000		0.000		0.000		12.791		0.000		12.791				
Plus CY Advance Procurement <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Total Obligation Authority <i>(\$ in Millions)</i>				0.000		0.000		0.000		12.791		0.000		12.791				
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)																		
Initial Spares <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Gross/Weapon System Unit Cost <i>(\$ in Thousands)</i>				-		-		-		-		-		-				
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Flyaway - Hardware Cost																		
Recurring Cost																		
1.1.1) EMA11 QF-16 FSAT ^(†) (19)	-	-	0.000	-	-	0.000	-	-	0.000	1,398.296	2	2.797	-	-	0.000	1,398.296	2	2.797
1.1.2) EMA12 QF-16 FSAT Hardware ⁽²⁰⁾	-	-	0.000	-	-	0.000	-	-	0.000	-	-	9.354	-	-	0.000	-	-	9.354
Subtotal: Recurring Cost	-	-	0.000	-	-	0.000	-	-	0.000	-	-	12.151	-	-	0.000	-	-	12.151
Subtotal: Flyaway - Hardware Cost	-	-	0.000	-	-	0.000	-	-	0.000	-	-	12.151	-	-	0.000	-	-	12.151
Support - Production Support Cost																		
2.1) EM890 Production Management	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.150	-	-	0.000	-	-	0.150
2.2) EM855 Production Engineering	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.490	-	-	0.000	-	-	0.490
Subtotal: Support - Production Support Cost	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.640	-	-	0.000	-	-	0.640
Gross/Weapon System Cost	-	-	0.000	-	-	0.000	-	-	0.000	-	-	12.791	-	-	0.000	-	-	12.791
†) indicates the presence of a P-5a																		
Footnotes:																		
(19) EMA11 QF-16 FSAT funds the conversion of the F-16 airplanes to a QF-16 target configuration. The quantities and price per unit varies per year, based on the procurement agreement with the United States Air Force.																		

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Exhibit P-5, Cost Analysis: PB 2019 Navy		Date: February 2018
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2	P-1 Line Item Number / Title: 2280 / Aerial Targets	Item Number / Title [DODIC]: 4 / Full Scale Aerial Target
ID Code (A=Service Ready, B=Not Service Ready) :		MDAP/MAIS Code:
<div>(20) EMA12 QF-16 Hardware funds the regeneration of drones and engines; including the parts and associated support. The regeneration costs can vary per year based on the amount of needed modernization, however, it is proportional to the number of units procured.</div>		

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Exhibit P-5a, Procurement History and Planning: PB 2019 Navy									Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2				P-1 Line Item Number / Title: 2280 / Aerial Targets					Item Number / Title [DODIC]: 4 / Full Scale Aerial Target			
Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$ K)	Specs Avail Now?	Date Revision Available	RFP Issue Date
1.1.1) EMA11 QF-16 FSAT ^(†)		2019	BOEING INC ⁽²¹⁾ / ST LOUIS, MO	SS / FFP	Eglin AFB, FL	Apr 2019	Apr 2021	2	1,398.296	Y		Oct 2017

^(†) indicates the presence of a P-21

Footnotes:
⁽²¹⁾ Production rates are based on joint procurements between the United States Air Force and the United States Navy.

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Exhibit P-21, Production Schedule: PB 2019 Navy																				Date: February 2018													
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2										P-1 Line Item Number / Title: 2280 / Aerial Targets										Item Number / Title [DODIC]: 4 / Full Scale Aerial Target													
Cost Elements <i>(Units in Each)</i>							Fiscal Year 2019										Fiscal Year 2020													BALANCE			
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2018	BAL DUE AS OF 1 OCT	Calendar Year 2019										Calendar Year 2020																
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG		SEP		
1.1.1) EMA11 QF-16 FSAT ⁽¹⁹⁾																																	
	1	2019	NAVY	2	0	2							A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	
	1	2019	AF ^(‡)	25	0	25							A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	
	1	2019	Total	27	0	27							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27	
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP			

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Exhibit P-21, Production Schedule: PB 2019 Navy																							Date: February 2018								
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2										P-1 Line Item Number / Title: 2280 / Aerial Targets													Item Number / Title [DODIC]: 4 / Full Scale Aerial Target								
Cost Elements <i>(Units in Each)</i>							Fiscal Year 2021												Fiscal Year 2022												BALANCE
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2020	BAL DUE AS OF 1 OCT	Calendar Year 2021												Calendar Year 2022												
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
1.1.1) EMA11 QF-16 FSAT ⁽¹⁹⁾																															
	1	2019	NAVY	2	0	2	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1							0
	1	2019	AF ^(‡)	25	0	25	-	-	-	-	-	-	2	2	2	2	2	3	2	2	2	2	2	2							0
	1	2019	Total	27	0	27	-	-	-	-	-	-	3	2	2	2	2	3	2	2	2	2	2	3	-	-	-	-	-	-	0
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	

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Exhibit P-21, Production Schedule: PB 2019 Navy							Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2				P-1 Line Item Number / Title: 2280 / Aerial Targets				Item Number / Title [DODIC]: 4 / Full Scale Aerial Target	

MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Year)			Procurement Leadtime (Months)							
		MSR For 2019	1-8-5 For 2019	MAX For 2019	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	BOEING INC ⁽²¹⁾ - ST LOUIS, MO	5	25	30	18	7	24	31	0	7	24	31

(‡) Delivery rows marked with this symbol indicate that they are funded through a separate Line Item. See the respective components' exhibits for details, including the full delivery schedule.

"A" in the Delivery Schedule indicates the Contract Award Date.

Note: Due to space limitations, quantities in the Exhibit P-21 delivery calendar are truncated and rounded based on the maximum quantity in the calendar as follows. If the maximum quantity is less than or equal to than 9,999, all quantities are shown as each. If the maximum quantity is between 10,000 and 999,999 all quantities are shown in thousands. If the maximum quantity is between 1,000,000 and 999,999,999 all quantities are shown in millions (rounded to the nearest thousand). If the maximum quantity is equal or greater than 1,000,000,000 all quantities are shown in billions (rounded to the nearest million).

Footnotes:

⁽²¹⁾ Production rates are based on joint procurements between the United States Air Force and the United States Navy.

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Exhibit P-5, Cost Analysis: PB 2019 Navy												Date: February 2018						
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2						P-1 Line Item Number / Title: 2280 / Aerial Targets						Item Number / Title [DODIC]: 5 / Aux / Aug System Targets						
ID Code (A=Service Ready, B=Not Service Ready) :									MDAP/MAIS Code:									
Resource Summary				Prior Years		FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total				
Procurement Quantity <i>(Units in Each)</i>				-		-		-		-		-		-				
Gross/Weapon System Cost <i>(\$ in Millions)</i>				2,421.766		13.365		18.031		17.006		0.000		17.006				
Less PY Advance Procurement <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Net Procurement (P-1) <i>(\$ in Millions)</i>				2,421.766		13.365		18.031		17.006		0.000		17.006				
Plus CY Advance Procurement <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Total Obligation Authority <i>(\$ in Millions)</i>				2,421.766		13.365		18.031		17.006		0.000		17.006				
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)																		
Initial Spares <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Gross/Weapon System Unit Cost <i>(\$ in Thousands)</i>				-		-		-		-		-		-				
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Flyaway - Aux/Aug Sys Targets Hardware Cost																		
Recurring Cost																		
1.1.1) EM304 ECM/Emitter Equipment	-	-	47.599	-	-	5.484	-	-	7.944	-	-	7.480	-	-	0.000	-	-	7.480
1.1.2) EM307 Target Common Avionics Equipment	-	-	7.942	-	-	4.159	-	-	6.245	-	-	5.592	-	-	0.000	-	-	5.592
Subtotal: Recurring Cost	-	-	55.541	-	-	9.643	-	-	14.189	-	-	13.072	-	-	0.000	-	-	13.072
Non Recurring Cost																		
1.2.1) Prior Year No Longer Procured	-	-	333.338	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
Subtotal: Non Recurring Cost	-	-	333.338	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
Subtotal: Flyaway - Aux/Aug Sys Targets Hardware Cost	-	-	388.879	-	-	9.643	-	-	14.189	-	-	13.072	-	-	0.000	-	-	13.072
Flyaway - Aux/Aug Sys Targets FY06 and PRIOR Cost																		
Non Recurring Cost																		
2.1.1) Prior year costs no longer financed beyond 1995	-	-	1,992.884	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
Subtotal: Non Recurring Cost	-	-	1,992.884	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
Subtotal: Flyaway - Aux/Aug Sys Targets FY06 and PRIOR Cost	-	-	1,992.884	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
Support - Aux/Aug Sys Targets Support Cost																		

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Exhibit P-5, Cost Analysis: PB 2019 Navy													Date: February 2018					
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2						P-1 Line Item Number / Title: 2280 / Aerial Targets						Item Number / Title [DODIC]: 5 / Aux / Aug System Targets						
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:								
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
3.1) EM823 Training Equipment ⁽²²⁾	-	-	1.744	-	-	0.185	-	-	0.194	-	-	0.207	-	-	0.000	-	-	0.207
3.2) EM853 Production Engineering Support ⁽²³⁾	-	-	30.766	-	-	2.870	-	-	2.959	-	-	3.033	-	-	0.000	-	-	3.033
3.3) EM863 Integrated Logistics Support (ILS)	-	-	6.284	-	-	0.589	-	-	0.609	-	-	0.613	-	-	0.000	-	-	0.613
3.4) EM873 Documentation	-	-	1.209	-	-	0.078	-	-	0.080	-	-	0.081	-	-	0.000	-	-	0.081
Subtotal: Support - Aux/Aug Sys Targets Support Cost	-	-	40.003	-	-	3.722	-	-	3.842	-	-	3.934	-	-	0.000	-	-	3.934
Gross/Weapon System Cost	-	-	2,421.766	-	-	13.365	-	-	18.031	-	-	17.006	-	-	0.000	-	-	17.006

Footnotes:

⁽²²⁾ Aux./Aug. training equipment increased from FY 2018 to FY 2019 due to additional requirements needed for fielding various training equipment.

⁽²³⁾ Aux./Aug. systems production engineering increased from FY 2018 to FY 2019 due to additional support required for fielding of various equipment; including the replacement AN/DPN-90 Radar Beacon, the DSQ-50A Scalar Scorer and its associated Ground Telemetry Station.

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy	Date: February 2018
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Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 02: Other Missiles / BSA 2: Tactical Missiles	P-1 Line Item Number / Title: 2290 / Other Missile Support
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ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
--	---	--

Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	50.584	3.248	3.420	3.318	0.000	3.318	3.388	3.458	3.528	3.603	-	74.547
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	50.584	3.248	3.420	3.318	0.000	3.318	3.388	3.458	3.528	3.603	-	74.547
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	50.584	3.248	3.420	3.318	0.000	3.318	3.388	3.458	3.528	3.603	-	74.547
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	0.309	1.112	0.407	-	0.407	1.382	-	-	-	-	3.210
Flyaway Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

The MK-41 Vertical Launching System (VLS) is a surface combatant missile launching system designed to store, select, and launch various Standard Missile configurations, Tomahawk, Tactical Tomahawk, Evolved Seasparrow (ESSM) and Vertical Launch Anti-Submarine Rocket (ASROC) (VLA) missiles. The MK-41 VLS significantly improves missile capacity, flexibility, multi-mission capability, reaction time, rate of fire, and is designed to be adaptable to present and future weapon systems. Current configurations are: two 61 cell launchers (forward and aft) for 22 TICONDEROGA (CG 47) Class Cruisers beginning with CG-52, one 61 cell aft and one 29 cell launcher forward for 28 ARLEIGH BURKE (DDG 51) Class Destroyers, one 64 cell launcher aft and one 32 cell launcher forward for 34 DDG 51 FLT IIA ships.

[P5 / CANISTER EQUIPMENT]: Funds procurement and installation of canister and gas management hardware Engineering Change Proposals (ECPs) and Ordnance Alterations (ORDALTs).

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy								Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 02: Other Missiles / BSA 2: Tactical Missiles						P-1 Line Item Number / Title: 2290 / Other Missile Support				
ID Code (A=Service Ready, B=Not Service Ready): A				Program Elements for Code B Items: N/A			Other Related Program Elements: N/A			
Line Item MDAP/MAIS Code: N/A										
Exhibits Schedule					Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	1 / Other Missile Support				- / 50.584	- / 3.248	- / 3.420	- / 3.318	- / 0.000	- / 3.318
P-40	Total Gross/Weapon System Cost				- / 50.584	- / 3.248	- / 3.420	- / 3.318	- / 0.000	- / 3.318
<small>*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.</small>										
<small>Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.</small>										

Justification:
 Funds are required for production support and Integrated Logistics Support (ILS) including: supply support, provisioning and technical documentation in support of weapon stations, All Up Round (AUR) facilities, and the fleet. Funds also provide for development and procurement of critical Engineering Change Proposals (ECP) and Ordnance Alterations (ORDALT) that improve reliability and implement safety upgrades for MK-41 VLS canisters and gas management hardware. Availability of upgraded canisters, canister hardware, and gas management hardware directly impacts fleet loadouts, operational availability, and safety.

The FY 2019 funding request was reduced by \$0.013 million to reflect the Department of Navy's effort to support the Office of Management and Budget directed reforms for Efficiency and Effectiveness that include a lean, accountable, more efficient government.

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Exhibit P-5, Cost Analysis: PB 2019 Navy												Date: February 2018						
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2						P-1 Line Item Number / Title: 2290 / Other Missile Support						Item Number / Title [DODIC]: 1 / Other Missile Support						
ID Code (A=Service Ready, B=Not Service Ready) :									MDAP/MAIS Code:									
Resource Summary				Prior Years		FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total				
Procurement Quantity <i>(Units in Each)</i>				-		-		-		-		-		-				
Gross/Weapon System Cost <i>(\$ in Millions)</i>				50.584		3.248		3.420		3.318		0.000		3.318				
Less PY Advance Procurement <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Net Procurement (P-1) <i>(\$ in Millions)</i>				50.584		3.248		3.420		3.318		0.000		3.318				
Plus CY Advance Procurement <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Total Obligation Authority <i>(\$ in Millions)</i>				50.584		3.248		3.420		3.318		0.000		3.318				
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)																		
Initial Spares <i>(\$ in Millions)</i>				-		0.309		1.112		0.407		-		0.407				
Gross/Weapon System Unit Cost <i>(\$ in Dollars)</i>				-		-		-		-		-		-				
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
Flyaway Cost																		
Recurring Cost																		
1.1.1) CANISTER EQUIPMENT	-	-	45.229	-	-	1.333	-	-	1.338	-	-	1.304	-	-	-	-	-	1.304
Subtotal: Recurring Cost	-	-	45.229	-	-	1.333	-	-	1.338	-	-	1.304	-	-	-	-	-	1.304
Subtotal: Flyaway Cost	-	-	45.229	-	-	1.333	-	-	1.338	-	-	1.304	-	-	-	-	-	1.304
Support Cost																		
2.1) ILS SUPPORT	-	-	5.355	-	-	1.915	-	-	2.082	-	-	2.014	-	-	-	-	-	2.014
Subtotal: Support Cost	-	-	5.355	-	-	1.915	-	-	2.082	-	-	2.014	-	-	-	-	-	2.014
Gross/Weapon System Cost	-	-	50.584	-	-	3.248	-	-	3.420	-	-	3.318	-	-	0.000	-	-	3.318

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy										Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 02: Other Missiles / BSA 2: Tactical Missiles							P-1 Line Item Number / Title: 2291 / LRASM					
ID Code (A=Service Ready, B=Not Service Ready): B				Program Elements for Code B Items: 0204167N				Other Related Program Elements: 0604786N				
Line Item MDAP/MAIS Code: N/A												
Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	15	25	25	-	25	25	25	-	-	-	115
Gross/Weapon System Cost (<i>\$ in Millions</i>)	0.000	54.343	74.733	81.190	0.000	81.190	74.201	75.000	0.000	0.000	-	359.467
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	0.000	54.343	74.733	81.190	0.000	81.190	74.201	75.000	0.000	0.000	-	359.467
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	0.000	54.343	74.733	81.190	0.000	81.190	74.201	75.000	0.000	0.000	-	359.467
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	3,623K	2,989K	3,248K	-	3,248K	2,968K	3,000K	-	-	-	3,126K

Description:

Long Range Anti-Ship Missile (LRASM) is Increment 1 of the Offensive Anti-Surface Warfare (OASuW) weapon development program. LRASM will be a key air launched component of the Navy's overall Cruise Missile Strategy. The Department will transition the Defense Advanced Research Projects Agency (DARPA) / Office of Naval Research (ONR) LRASM demonstration design into a fielded weapon system which will support an increased offensive strike capability with an Early Operational Capability (EOC) in 2018 for U.S. Air Force B-1 and 2019 on U.S. Navy F/A-18E/F. In response to U.S. Pacific Command Urgent Operation Need (UON) statement, LRASM is intended to provide the first increment of the next generation ASuW capabilities addressing the most urgent air-launched requirement, significantly reducing joint force warfighting risks, and positioning the Department to address evolving surface warfare threats.

The U.S. Air Force will be procuring LRASMs in FY 2017 through FY 2019 at the following quantities:
FY 2017 - 19
FY 2018 - 12
FY 2019 - 12

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy								Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 02: Other Missiles / BSA 2: Tactical Missiles						P-1 Line Item Number / Title: 2291 / LRASM				
ID Code (A=Service Ready, B=Not Service Ready): B			Program Elements for Code B Items: 0204167N			Other Related Program Elements: 0604786N				
Line Item MDAP/MAIS Code: N/A										
Exhibits Schedule					Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	1 / LRASM	P-5a, P-21			- / 0.000	15 / 54.343	25 / 74.733	25 / 81.190	- / 0.000	25 / 81.190
P-40	Total Gross/Weapon System Cost				- / 0.000	15 / 54.343	25 / 74.733	25 / 81.190	- / 0.000	25 / 81.190
<small>*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.</small>										
<small>Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.</small>										

Justification:
 FY 2019 funding procures a total of 25 Long Range Anti-Ship Missiles (LRASM).

LRASM development/fielding is funded to focus on meeting the time-critical requirements, while accepting manageable levels of technical risk, and is utilizing the DoD Instruction 5000.02 Model 4 Accelerated Acquisition process to achieve speed to the fleet. The program's funding profile was developed to enable fielding at the time required by the warfighter. Due to the accelerated nature of the program's acquisition strategy, volatility in the funding profile has an intensified impact on the program's ability to meet the early operational requirements, and any reduction in funding will increase risk to fielding the required capability at the specified time.

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Exhibit P-5, Cost Analysis: PB 2019 Navy													Date: February 2018								
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2							P-1 Line Item Number / Title: 2291 / LRASM						Item Number / Title [DODIC]: 1 / LRASM								
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:											
Resource Summary				Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
Procurement Quantity (<i>Units in Each</i>)				-			15			25			25			-			25		
Gross/Weapon System Cost (<i>\$ in Millions</i>)				0.000			54.343			74.733			81.190			0.000			81.190		
Less PY Advance Procurement (<i>\$ in Millions</i>)				-			-			-			-			-			-		
Net Procurement (P-1) (<i>\$ in Millions</i>)				0.000			54.343			74.733			81.190			0.000			81.190		
Plus CY Advance Procurement (<i>\$ in Millions</i>)				-			-			-			-			-			-		
Total Obligation Authority (<i>\$ in Millions</i>)				0.000			54.343			74.733			81.190			0.000			81.190		
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)																					
Initial Spares (<i>\$ in Millions</i>)				-			-			-			-			-			-		
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)				-			3,623K			2,989K			3,248K			-			3,248K		
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																					
Cost Elements		Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total				
		Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)		
Hardware - LRASM Cost																					
Recurring Cost																					
1.1.1) All Up Round (AUR) ^(†) (1)		-	-	-	3,591K	15	53.865	2,725K	25	68.118	3,130K	25	78.255	-	-	-	3,130K	25	78.255		
1.1.2) Contractor ECO		-	-	-	-	-	0.256	-	-	3.229	-	-	1.435	-	-	-	-	-	1.435		
Subtotal: Recurring Cost		-	-	-	-	-	54.121	-	-	71.347	-	-	79.690	-	-	-	-	-	79.690		
Subtotal: Hardware - LRASM Cost		-	-	-	-	-	54.121	-	-	71.347	-	-	79.690	-	-	-	-	-	79.690		
Hardware - Nonrecurring and Ancillary Equip Cost																					
Non Recurring Cost																					
2.1.1) Containers ⁽²⁾		-	-	-	-	-	0.208	-	-	0.632	-	-	0.600	-	-	-	-	-	0.600		
Subtotal: Non Recurring Cost		-	-	-	-	-	0.208	-	-	0.632	-	-	0.600	-	-	-	-	-	0.600		
Subtotal: Hardware - Nonrecurring and Ancillary Equip Cost		-	-	-	-	-	0.208	-	-	0.632	-	-	0.600	-	-	-	-	-	0.600		
Support Cost																					
3.1) GIH Production Support		-	-	-	-	-	0.014	-	-	2.754	-	-	0.900	-	-	-	-	-	0.900		
Subtotal: Support Cost		-	-	-	-	-	0.014	-	-	2.754	-	-	0.900	-	-	-	-	-	0.900		
Gross/Weapon System Cost		-	-	0.000	3,623K	15	54.343	2,989K	25	74.733	3,248K	25	81.190	-	-	0.000	3,248K	25	81.190		
(†) indicates the presence of a P-5a																					

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Exhibit P-5, Cost Analysis: PB 2019 Navy		Date: February 2018
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2	P-1 Line Item Number / Title: 2291 / LRASM	Item Number / Title [DODIC]: 1 / LRASM
ID Code (A=Service Ready, B=Not Service Ready) :		MDAP/MAIS Code:
<p>Footnotes:</p> <p>⁽¹⁾ FY 2017 reflects the above threshold reprogramming (ATR) of \$24M to procure additional missiles, which brought up the total Long-Range Anti-Ship Missile (LRAMS) procurement to 15 missiles. FY 2018 unit cost reflects PB-18 funding and actual unit cost is dependent on contract negotiations. FY 2019 unit costs increase is to properly price the missiles and takes into account the FY 2017 contract award and the recommended adjustments.</p> <p>⁽²⁾ Ratio of containers to AURs is 1:1.</p>		

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Exhibit P-5a, Procurement History and Planning: PB 2019 Navy								Date: February 2018				
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2				P-1 Line Item Number / Title: 2291 / LRASM				Item Number / Title [DODIC]: 1 / LRASM				

Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$)	Specs Avail Now?	Date Revision Available	RFP Issue Date
1.1.1) All Up Round (AUR) ^(†)		2017 ⁽³⁾	Lockheed Martin Missiles and Fire Control ⁽⁴⁾ / Orlando, FL	SS / FPIF	Eglin AFB	Jul 2017	Sep 2018	15	3,591K	Y		Oct 2015
1.1.1) All Up Round (AUR) ^(†)		2018 ⁽⁵⁾	Lockheed Martin Missiles and Fire Control ⁽⁴⁾ / Orlando, FL	SS / FPIF	Eglin AFB	Jun 2018	Jun 2019	25	2,725K	Y		Jul 2017
1.1.1) All Up Round (AUR) ^(†)		2019 ⁽⁶⁾	Lockheed Martin Missiles and Fire Control ⁽⁴⁾ / Orlando, FL	SS / FPIF	Eglin AFB	Jun 2019	Jun 2020	25	3,130K	N	Jan 2018	Jul 2018

^(†) indicates the presence of a P-21

Footnotes:

⁽³⁾ Award date represents the initial U.S. Air Force and U.S. Navy procurements. The LRASM program received approval in February 2017 to proceed to production.

⁽⁴⁾ FY2017 Initial Procurement Lead Time represents time from award to delivery of first Air Force AUR (Sep-18) followed by delivery of first Navy AUR (Jan-19).

⁽⁵⁾ Award date represents both U.S. Air Force and U.S. Navy procurements.

⁽⁶⁾ Award date represents both U.S. Air Force and U.S. Navy procurements.

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Exhibit P-21, Production Schedule: PB 2019 Navy																							Date: February 2018														
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2										P-1 Line Item Number / Title: 2291 / LRASM													Item Number / Title [DODIC]: 1 / LRASM														
Cost Elements <i>(Units in Each)</i>							Fiscal Year 2017												Fiscal Year 2018												B A L A N C E						
O C C #	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2016	BAL DUE AS OF 1 OCT	Calendar Year 2017												Calendar Year 2018																		
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P							
1.1.1) All Up Round (AUR) ⁽¹⁾																																					
	1	2017	NAVY	15	0	15													A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15
	1	2017	AF (‡)	19	0	19													A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	9
	1	2017	Total	34	0	34													-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	24	
	1	2018	NAVY	25	0	25																									A -	-	-	-	-	25	
	1	2018	AF (‡)	12	0	12																									A -	-	-	-	-	12	
	1	2018	Total	37	0	37																									-	-	-	-	-	37	
	1	2019	NAVY	25	0	25																														25	
	1	2019	AF (‡)	12	0	12																														12	
	1	2019	Total	37	0	37																														37	
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P							

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Exhibit P-21, Production Schedule: PB 2019 Navy										Date: February 2018									
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2					P-1 Line Item Number / Title: 2291 / LRASM					Item Number / Title [DODIC]: 1 / LRASM									

Cost Elements (Units in Each)							Fiscal Year 2019														Fiscal Year 2020														B A L A N C E
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2018	BAL DUE AS OF 1 OCT	Calendar Year 2019																		Calendar Year 2020										
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P					
1.1.1) All Up Round (AUR) ⁽¹⁾																																			
	1	2017	NAVY	15	0	15	-	-	-	2	2	4	4	3																			0		
	1	2017	AF ^(‡)	19	10	9	4	4	1	-	-	-	-	-																			0		
	1	2017	Total	34	10	24	4	4	1	2	2	4	4	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0			
	1	2018	NAVY	25	0	25	-	-	-	-	-	-	-	-	2	2	2	2	2	2	2	2	2	2	3					0					
	1	2018	AF ^(‡)	12	0	12	-	-	-	-	-	-	-	-	2	2	4	4	-	-	-	-	-	-	-					0					
	1	2018	Total	37	0	37	-	-	-	-	-	-	-	-	4	4	6	6	2	2	2	2	2	3	-	-	-	-	-	0					
	1	2019	NAVY	25	0	25									A -	-	-	-	-	-	-	-	-	-	-	-	2	2	2	2	17				
	1	2019	AF ^(‡)	12	0	12									A -	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	8				
	1	2019	Total	37	0	37									-	-	-	-	-	-	-	-	-	-	-	-	3	3	3	3	25				
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P					

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Exhibit P-21, Production Schedule: PB 2019 Navy																				Date: February 2018													
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2										P-1 Line Item Number / Title: 2291 / LRASM										Item Number / Title [DODIC]: 1 / LRASM													
Cost Elements <i>(Units in Each)</i>							Fiscal Year 2021										Fiscal Year 2022														BALANCE		
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2020	BAL DUE AS OF 1 OCT	Calendar Year 2021										Calendar Year 2022																
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP			
1.1.1) All Up Round (AUR) ⁽¹⁾																																	
	1	2017	NAVY	15	15	0																											0
	1	2017	AF (‡)	19	19	0																											0
	1	2017	Total	34	34	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0		
	1	2018	NAVY	25	25	0																											0
	1	2018	AF (‡)	12	12	0																											0
	1	2018	Total	37	37	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0		
	1	2019	NAVY	25	8	17	2	2	2	2	2	2	2	3																			0
	1	2019	AF (‡)	12	4	8	1	1	1	1	1	1	2	-																			0
	1	2019	Total	37	12	25	3	3	3	3	3	3	4	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0		
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP			

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Exhibit P-21, Production Schedule: PB 2019 Navy							Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2				P-1 Line Item Number / Title: 2291 / LRASM				Item Number / Title [DODIC]: 1 / LRASM	

MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Year)			Procurement Leadtime (Months)							
		MSR For 2019	1-8-5 For 2019	MAX For 2019	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	Lockheed Martin Missiles and Fire Control ⁽⁴⁾ - Orlando, FL	12	48	48	0	10	14	24	0	9	12	21

(‡) Delivery rows marked with this symbol indicate that they are funded through a separate Line Item. See the respective components' exhibits for details, including the full delivery schedule.

"A" in the Delivery Schedule indicates the Contract Award Date.

Note: Due to space limitations, quantities in the Exhibit P-21 delivery calendar are truncated and rounded based on the maximum quantity in the calendar as follows. If the maximum quantity is less than or equal to than 9,999, all quantities are shown as each. If the maximum quantity is between 10,000 and 999,999 all quantities are shown in thousands. If the maximum quantity is between 1,000,000 and 999,999,999 all quantities are shown in millions (rounded to the nearest thousand). If the maximum quantity is equal or greater than 1,000,000,000 all quantities are shown in billions (rounded to the nearest million).

Footnotes:

⁽⁴⁾ FY2017 Initial Procurement Lead Time represents time from award to delivery of first Air Force AUR (Sep-18) followed by delivery of first Navy AUR (Jan-19).

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy **Date:** February 2018

Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 02: Other Missiles / BSA 2: Tactical Missiles	P-1 Line Item Number / Title: 2292 / LCS OTH Missile
--	--

ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	8	-	8	12	12	12	20	Continuing	Continuing
Gross/Weapon System Cost (<i>\$ in Millions</i>)	0.000	0.000	0.000	18.156	0.000	18.156	28.312	28.714	29.139	44.691	Continuing	Continuing
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	0.000	0.000	0.000	18.156	0.000	18.156	28.312	28.714	29.139	44.691	Continuing	Continuing
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	0.000	0.000	0.000	18.156	0.000	18.156	28.312	28.714	29.139	44.691	Continuing	Continuing
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	2,270K	-	2,270K	2,359K	2,393K	2,428K	2,235K	Continuing	Continuing

Description:

The Over The Horizon (OTH) missile provides the Littoral Combat Ship/Frigate (LCS/FFG) with long range anti-surface offensive capability against surface combatants.

The OTH Weapon Systems (WS) consists of a Missile Launch System and a complement of missiles.

- Missile Launch System components include: a Launch Mechanism, Operator Interface, and Fire Control System which are procured with Other Procurement, Navy Funds.

- Missile components include a missile encased in a firing canister (encanistered missile). An encanistered missile consists of a flight vehicle that is mechanically and electrically connected within a weapon canister. The flight vehicle's major components are operationally joined, consisting of a warhead (explosive), propulsion system, guidance system, initiation system, and other components. The weapon canister is a mechanical structure with electrical interconnections that is used to support and restrain the flight vehicle during loading and unloading operations. The weapon canister allows the flight vehicle to mechanically and electrically connect to the Missile Launch System without being exposed to the environment.

This program is a new start.

Other Related Budgets: OPN LI 5231, RDTEN PE 0604756N Proj 2070

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy							Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 02: Other Missiles / BSA 2: Tactical Missiles					P-1 Line Item Number / Title: 2292 / LCS OTH Missile					
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A			Other Related Program Elements: N/A				
Line Item MDAP/MAIS Code: N/A										
Exhibits Schedule					Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	1 / LCS OTH Missile	P-5a, P-21			- / 0.000	- / 0.000	- / 0.000	8 / 18.156	- / 0.000	8 / 18.156
P-40	Total Gross/Weapon System Cost				- / 0.000	- / 0.000	- / 0.000	8 / 18.156	- / 0.000	8 / 18.156
*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.										
Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.										

Justification:

Over The Horizon Missile base funding is required to support Over The Horizon Weapon System program for the Littoral Combat Ships. The program provides a long range anti-surface offensive capability to improve the ship's ability to defend against enemy surface ships.

FY 2019 funds will be used to procure 8 Over The Horizon missiles encased in a firing canister.

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Exhibit P-5, Cost Analysis: PB 2019 Navy												Date: February 2018						
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2						P-1 Line Item Number / Title: 2292 / LCS OTH Missile						Item Number / Title [DODIC]: 1 / LCS OTH Missile						
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:								
Resource Summary				Prior Years		FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total				
Procurement Quantity (Units in Each)				-		-		-		8		-		8				
Gross/Weapon System Cost (\$ in Millions)				0.000		0.000		0.000		18.156		0.000		18.156				
Less PY Advance Procurement (\$ in Millions)				-		-		-		-		-		-				
Net Procurement (P-1) (\$ in Millions)				0.000		0.000		0.000		18.156		0.000		18.156				
Plus CY Advance Procurement (\$ in Millions)				-		-		-		-		-		-				
Total Obligation Authority (\$ in Millions)				0.000		0.000		0.000		18.156		0.000		18.156				
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)																		
Initial Spares (\$ in Millions)				-		-		-		-		-		-				
Gross/Weapon System Unit Cost (\$ in Dollars)				-		-		-		2,270K		-		2,270K				
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
Hardware Cost																		
Recurring Cost																		
1.1.1) LCS OTH Missile ^(†)	-	-	-	-	-	-	-	-	-	2,152K	8	17.216	-	-	-	2,152K	8	17.216
Subtotal: Recurring Cost	-	-	-	-	-	-	-	-	-	-	-	17.216	-	-	-	-	-	17.216
Subtotal: Hardware Cost	-	-	-	-	-	-	-	-	-	-	-	17.216	-	-	-	-	-	17.216
Support Cost																		
2.1) Production Engineering Support - OEM ⁽¹⁾	-	-	-	-	-	-	-	-	-	-	-	0.940	-	-	-	-	-	0.940
Subtotal: Support Cost	-	-	-	-	-	-	-	-	-	-	-	0.940	-	-	-	-	-	0.940
Gross/Weapon System Cost	-	-	0.000	-	-	0.000	-	-	0.000	2,270K	8	18.156	-	-	0.000	2,270K	8	18.156
(†) indicates the presence of a P-5a																		
Footnotes:																		
⁽¹⁾ Funding provides for ongoing Design Agent Services support to the US Navy in an advisory and issue resolution capacity.																		

(†) indicates the presence of a P-5a

Footnotes:

⁽¹⁾ Funding provides for ongoing Design Agent Services support to the US Navy in an advisory and issue resolution capacity.

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Exhibit P-5a, Procurement History and Planning: PB 2019 Navy									Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2				P-1 Line Item Number / Title: 2292 / LCS OTH Missile				Item Number / Title [DODIC]: 1 / LCS OTH Missile				
Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$)	Specs Avail Now?	Date Revision Available	RFP Issue Date
1.1.1) LCS OTH Missile ^(†)		2019	TBD (Competitive Procurement) / TBD	C / FFP	NAVSEA	Dec 2018	Dec 2020	8	2,152K	Y		Feb 2017

^(†) indicates the presence of a P-21

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Exhibit P-21, Production Schedule: PB 2019 Navy																				Date: February 2018													
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2							P-1 Line Item Number / Title: 2292 / LCS OTH Missile													Item Number / Title [DODIC]: 1 / LCS OTH Missile													
Cost Elements (Units in Each)							Fiscal Year 2019													Fiscal Year 2020													BALANCE
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2018	BAL DUE AS OF 1 OCT	Calendar Year 2019													Calendar Year 2020													
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP			
1.1.1) LCS OTH Missile																																	
	1	2019	NAVY	8	0	8			A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8		
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP			

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Exhibit P-21, Production Schedule: PB 2019 Navy																				Date: February 2018													
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2										P-1 Line Item Number / Title: 2292 / LCS OTH Missile										Item Number / Title [DODIC]: 1 / LCS OTH Missile													
Cost Elements (Units in Each)							Fiscal Year 2021										Fiscal Year 2022														BALANCE		
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2020	BAL DUE AS OF 1 OCT	Calendar Year 2021										Calendar Year 2022																
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP			
1.1.1) LCS OTH Missile																																	
	1	2019	NAVY	8	0	8	-	-	2	-	-	2	-	-	2	-	-	2															0
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP			

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Exhibit P-21, Production Schedule: PB 2019 Navy									Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2					P-1 Line Item Number / Title: 2292 / LCS OTH Missile				Item Number / Title [DODIC]: 1 / LCS OTH Missile			
MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Year)			Procurement Leadtime (Months)							
		MSR For 2019	1-8-5 For 2019	MAX For 2019	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	TBD (Competitive Procurement) - TBD				0	0	24	24	0	0	24	24

"A" in the Delivery Schedule indicates the Contract Award Date.

Note: Due to space limitations, quantities in the Exhibit P-21 delivery calendar are truncated and rounded based on the maximum quantity in the calendar as follows. If the maximum quantity is less than or equal to than 9,999, all quantities are shown as each. If the maximum quantity is between 10,000 and 999,999 all quantities are shown in thousands. If the maximum quantity is between 1,000,000 and 999,999,999 all quantities are shown in millions (rounded to the nearest thousand).If the maximum quantity is equal or greater than 1,000,000,000 all quantities are shown in billions (rounded to the nearest million).

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy										Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 02: Other Missiles / BSA 3: Modification of Missiles							P-1 Line Item Number / Title: 2307 / Evolved Sea Sparrow Missile (ESSM)					
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A					Other Related Program Elements: N/A				
Line Item MDAP/MAIS Code: 197												
Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	877	73	31	45	-	45	60	125	175	300	Continuing	Continuing
Gross/Weapon System Cost (<i>\$ in Millions</i>)	1,235.347	105.279	76.292	98.384	0.000	98.384	128.059	217.523	293.594	530.565	Continuing	Continuing
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	54.462	-	-	-	-	-	-	-	-	-	54.462
Net Procurement (P-1) (<i>\$ in Millions</i>)	1,235.347	50.817	76.292	98.384	0.000	98.384	128.059	217.523	293.594	530.565	Continuing	Continuing
Plus CY Advance Procurement (<i>\$ in Millions</i>)	54.462	-	-	-	-	-	-	-	-	-	-	54.462
Total Obligation Authority (<i>\$ in Millions</i>)	1,289.809	50.817	76.292	98.384	0.000	98.384	128.059	217.523	293.594	530.565	Continuing	Continuing
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	-	3.950	-	-	-	-	-	-	-	-	3.950
Flyaway Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	1,409K	1,442K	2,461K	2,186K	-	2,186K	2,134K	1,740K	1,678K	1,769K	Continuing	Continuing

Description:

The Evolved SEASPARROW Missile (ESSM) Program is an international cooperative effort among ten NATO SEASPARROW nations (Australia, Canada, Denmark, Germany, Greece, Netherlands, Norway, Spain, Turkey, and the U.S.) established to design, develop, test, produce and provide in-service support to a new and improved version of the SPARROW missile (RIM-7P) with the kinematic performance to defeat current and projected threats that possess low altitude, high velocity and maneuver characteristics beyond the engagement capabilities of the RIM-7P. ESSM consists of Blk 1 and Blk 2 missile upgrades.

ESSM Blk 1 provides crucial defense battlespace and fire power against the fast, low altitude, highly maneuverable Anti-Ship Cruise Missile (ASCM) threat. Modifications were made to both the MK 41 Vertical Launch System (VLS) to fire from a single cell with 4 ESSM (QuadPack) and the NATO SEASPARROW Surface Missile System (NSSMS), fielding ESSM Blk 1 onboard CVN 68, LHD 1, LHA 7, CG 47, and DDG 51 class ships. ESSM Blk 1 integration efforts continue to bring the capability to CVN 78 and DDG 1000. Testing scheduled for FY 2018 includes ESSM Blk 1 firings from the Self Defense Test Ship in support of DDG 1000 class integration, AEGIS B/L 9C2 live fire testing, and Combat Systems Ship Qualification Trials live fire tests aboard CVN 72 and LHD 2. The ESSM Blk 1 has been in production since 2004 and will complete with the delivery of MYP16-17 procurement in FY 2019. The production line will cease to exist in the 2019-2020 timeframe making ESSM Blk 1 unique sections (Guidance Sections and Transition Sections) unaffordable. PEO IWS 12 is working on a plan to procure depot level repair parts needed to sustain the ESSM Blk 1 inventory through its planned end of life (~2040).

ESSM Blk 2 upgrade replaces the largely obsolete guidance section with a dual mode Active/Semi-Active X-Band seeker capable of defeating future threat capabilities within the existing envelope, including; smaller signatures, increased raid sizes, and adverse environments including countermeasures. Threat types include: advanced ASCMs, Anti-Ship Ballistic Missiles, surface and asymmetrical. Two ESSM Blk 2 Controlled Test Vehicle flight tests were successfully conducted in JUN17 onboard the Self Defense Test Ship at the Point Mugu Sea Test Range. Three subsequent Guided Test Vehicle flight tests are scheduled in FY 2018. The ESSM Blk 2 Milestone C decision is scheduled for Q4 FY 2018 with IOC for AEGIS platforms scheduled for 2020 and SSDS platforms in 2023. ESSM Blk 2 LRIP deliveries are expected to begin in 2020 with FRP rounds delivering to the Fleet in 2023.

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy								Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 02: Other Missiles / BSA 3: Modification of Missiles						P-1 Line Item Number / Title: 2307 / Evolved Sea Sparrow Missile (ESSM)				
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A			Other Related Program Elements: N/A				
Line Item MDAP/MAIS Code: 197										
Exhibits Schedule					Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	1 / Evolved Sea Sparrow Missile (ESSM)	P-5a, P-21			877 / 1,235.347	73 / 105.279	31 / 76.292	45 / 98.384	- / 0.000	45 / 98.384
P-40	Total Gross/Weapon System Cost				877 / 1,235.347	73 / 105.279	31 / 76.292	45 / 98.384	- / 0.000	45 / 98.384
*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.										
Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.										

Justification:

FY 2019 funding increase in MK25 Mod 1 Canisters due to an increase in the procurement quantity from 8 in FY 2018 to 12 in FY 2019.

FY 2019 funding decrease in MK30 Canisters due to a decrease in procurement quantity from 32 in FY 2018 to 16 in FY 2019.

FY 2019 funding to support increase in the procurement of all-up-rounds from quantity of 31 in FY 2018 to 45 in FY 2019

FY 2019 funding increase in production support for transition to ESSM BLK 2 procurement and an increase in missile procurement from 31 missiles in FY 2018 to 45 in FY 2019.

The FY 2019 funding request was reduced by \$0.148 million to reflect the Department of Navy's effort to support the Office of Management and Budget directed reforms for Efficiency and Effectiveness that include a lean, accountable, more efficient government.

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Exhibit P-5, Cost Analysis: PB 2019 Navy											Date: February 2018							
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 3						P-1 Line Item Number / Title: 2307 / Evolved Sea Sparrow Missile (ESSM)						Item Number / Title [DODIC]: 1 / Evolved Sea Sparrow Missile (ESSM)						
ID Code (A=Service Ready, B=Not Service Ready) :									MDAP/MAIS Code:									
Resource Summary				Prior Years		FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total				
Procurement Quantity (Units in Each)				877		73		31		45		-		45				
Gross/Weapon System Cost (\$ in Millions)				1,235.347		105.279		76.292		98.384		0.000		98.384				
Less PY Advance Procurement (\$ in Millions)				-		54.462		-		-		-		-				
Net Procurement (P-1) (\$ in Millions)				1,235.347		50.817		76.292		98.384		0.000		98.384				
Plus CY Advance Procurement (\$ in Millions)				54.462		-		-		-		-		-				
Total Obligation Authority (\$ in Millions)				1,289.809		50.817		76.292		98.384		0.000		98.384				
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)																		
Initial Spares (\$ in Millions)				-		-		3.950		-		-		-				
Gross/Weapon System Unit Cost (\$ in Dollars)				1,409K		1,442K		2,461K		2,186K		-		2,186K				
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
Hardware Cost																		
Non Recurring Cost																		
1.1.1) FUZE ECP BACKFIT	-	-	4.700	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.1.2) COMPOSITE RADOME	-	-	7.871	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.1.3) MISSILE HARDWARE	-	-	0.600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.1.4) RADOM LIFE OF TYPE BUY	-	-	3.779	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.1.5) ROCKET MOTORS (SEASPARROW)	-	-	6.396	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Non Recurring Cost	-	-	23.346	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Hardware Cost	-	-	23.346	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hardware - MK25 QUADPACK CANISTERS Cost																		
Recurring Cost																		
2.1.1) MK 25 QUADPACK CANISTERS ^(†) (1)	340,074.32	148	50.331	374,064.00	19	7.107	400,000.00	8	3.200	408,000.00	12	4.896	-	-	-	408,000.00	12	4.896
2.1.2) MK 30 CANISTER ^(†)	-	-	-	-	-	-	300,000.00	32	9.600	306,000.00	16	4.896	-	-	-	306,000.00	16	4.896
Subtotal: Recurring Cost	-	-	50.331	-	-	7.107	-	-	12.800	-	-	9.792	-	-	-	-	-	9.792

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Exhibit P-5, Cost Analysis: PB 2019 Navy												Date: February 2018						
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 3						P-1 Line Item Number / Title: 2307 / Evolved Sea Sparrow Missile (ESSM)						Item Number / Title [DODIC]: 1 / Evolved Sea Sparrow Missile (ESSM)						
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:								
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
Subtotal: Hardware - MK25 QUADPACK CANISTERS Cost	-	-	50.331	-	-	7.107	-	-	12.800	-	-	9.792	-	-	-	-	-	9.792
Hardware - ESSM MISSILES Cost																		
Recurring Cost																		
3.1.1) MK 41 AEGIS ALL UP ROUND MISSILE HARDWARE ^(†)	844,170.39	493	416.176	1,201K	49	58.867	-	-	-	-	-	-	-	-	-	-	-	-
3.1.2) MK 29 ALL UP ROUNDS MISSILE HARDWARE ^(†)	817,624.73	461	376.925	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3.1.3) MK 57 ALLUP ROUNDS MISSILE HARDWARE ^(†)	967,833.33	6	5.807	1,277K	24	30.648	-	-	-	-	-	-	-	-	-	-	-	-
3.1.4) MK 41 X-BAND ALL UP ROUNDS MISSILE HARDWARE	858,500.00	20	17.170	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3.1.5) ESSM BLOCK 2 ^(†)	-	-	-	-	-	-	1,768K	31	54.821	1,742K	45	78.399	-	-	-	1,742K	45	78.399
3.1.6) WARHEAD COMPATIBLE TELEMETER ^(†)	69,912.04	216	15.101	76,320.00	28	2.137	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Recurring Cost	-	-	831.179	-	-	91.652	-	-	54.821	-	-	78.399	-	-	-	-	-	78.399
Subtotal: Hardware - ESSM MISSILES Cost	-	-	831.179	-	-	91.652	-	-	54.821	-	-	78.399	-	-	-	-	-	78.399
Hardware - SHIPPING CONTAINERS Cost																		
Recurring Cost																		
4.1.1) GMS Shipping Containers ^{(†) (2)}	-	-	-	-	-	-	35,000.00	10	0.350	-	-	-	-	-	-	-	-	-
4.1.2) ESSM SHIPPING CONTAINERS ^(†)	9,092.08	467	4.246	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Recurring Cost	-	-	4.246	-	-	-	-	-	0.350	-	-	-	-	-	-	-	-	-
Subtotal: Hardware - SHIPPING CONTAINERS Cost	-	-	4.246	-	-	-	-	-	0.350	-	-	-	-	-	-	-	-	-
Support Cost																		
5.1) PROCUREMENT SUPPORT ⁽³⁾	-	-	242.923	-	-	2.628	-	-	4.291	-	-	5.306	-	-	-	-	-	5.306

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Exhibit P-5, Cost Analysis: PB 2019 Navy													Date: February 2018					
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 3						P-1 Line Item Number / Title: 2307 / Evolved Sea Sparrow Missile (ESSM)						Item Number / Title [DODIC]: 1 / Evolved Sea Sparrow Missile (ESSM)						
ID Code (A=Service Ready, B=Not Service Ready) :									MDAP/MAIS Code:									
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
5.2) TOOLING AND TEST SUPPORT	-	-	40.938	-	-	0.598	-	-	0.596	-	-	0.675	-	-	-	-	-	0.675
5.3) DIMINISHING MANUFACTURING SERVICES ⁽⁴⁾	-	-	-	-	-	2.118	-	-	2.265	-	-	2.543	-	-	-	-	-	2.543
5.5) PERFORMANCE CHARACTERIZATION	-	-	29.924	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5.6) ILS/FLEET DOCUMENTATION	-	-	1.979	-	-	0.675	-	-	0.717	-	-	0.953	-	-	-	-	-	0.953
5.7) COMPONENT IMPROVEMENT/ECPS ⁽⁵⁾	-	-	10.481	-	-	0.501	-	-	0.452	-	-	0.716	-	-	-	-	-	0.716
Subtotal: Support Cost	-	-	326.245	-	-	6.520	-	-	8.321	-	-	10.193	-	-	-	-	-	10.193
Gross/Weapon System Cost	1,409K	877	1,235.347	1,442K	73	105.279	2,461K	31	76.292	2,186K	45	98.384	-	-	0.000	2,186K	45	98.384

(†) indicates the presence of a P-5a

Footnotes:

(1) FY 2019 funding supports the increase to 12 MK-25 canisters.

(2) FY 2018 unit cost within the ESSM portfolio changed and the program is able to procure additional containers.

(3) FY 2018 funding increase in procurement support for transition to ESSM Block 2 procurement in FY 2018. FY 2019 funding increase in procurement support for the procurement of 14 additional ESSM Block 2 AURs.

(4) FY 2023 Increase in Diminishing Manufacturing Services- ESSM Block 2 expects future obsolescence issues with the Transmitter in the Guidance Section. AMRAAM updated the Guidance Section electronics with its Form, Fit, Function (F3R) upgrade, but has not replaced the analog transmitter with a solid state version. ESSM Block 2 leverages this transmitter, which faces DMS and cost issues in items such as the Travelling Wave Tube. Based on AMRAAM procurement projections, ESSM Block 2 will need to begin a redesign or replacement of this item in FY 2023. This requires the development, integration, testing and qualification of a solid state transmitter in the ESSM Guidance Section to replace the analog transmitter. While the remainder of the guidance section would continue to leverage the AMRAAM F3R upgrade, this change may be ESSM Block 2 specific and not benefit from a cost sharing with the AMRAAM program.

(5) FY 2023 Increase in Component Improvement/ECPS- ESSM Block 2 expects future obsolescence issues with the Transmitter in the Guidance Section. MRAAM updated the Guidance Section electronics with its Form, Fit, Function (F3R) upgrade, but has not replaced the analog transmitter with a solid state version. ESSM Block 2 leverages this transmitter, which faces DMS and cost issues in items such as the Travelling Wave Tube. Based on AMRAAM procurement projections, ESSM Block 2 will need to begin a redesign or replacement of this item in FY 2023. This requires the development, integration, testing and qualification of a solid state transmitter in the ESSM Guidance Section to replace the analog transmitter. While the remainder of the guidance section would continue to leverage the AMRAAM F3R upgrade, this change may be ESSM Block 2 specific and not benefit from a cost sharing with the AMRAAM program.

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Exhibit P-5a, Procurement History and Planning: PB 2019 Navy								Date: February 2018				
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 3				P-1 Line Item Number / Title: 2307 / Evolved Sea Sparrow Missile (ESSM)				Item Number / Title [DODIC]: 1 / Evolved Sea Sparrow Missile (ESSM)				
Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$)	Specs Avail Now?	Date Revision Available	RFP Issue Date
2.1.1) MK 25 QUADPACK CANISTERS ^(†)		2016	BAE / Minneapolis, MN	SS / FFP	NAVSEA	Mar 2016	Jun 2017	3	419,200.00	Y		Feb 2014
2.1.1) MK 25 QUADPACK CANISTERS ^(†)		2017	BAE / Minneapolis, MN	SS / FFP	NAVSEA	May 2017	Aug 2018	19	374,064.00	Y		Feb 2015
2.1.1) MK 25 QUADPACK CANISTERS ^(†)		2018	BAE / Minneapolis, MN	C / FFP	NAVSEA	Feb 2018	May 2019	8	400,000.00	Y		Feb 2016
2.1.1) MK 25 QUADPACK CANISTERS ^(†)		2019	BAE / Minneapolis, MN	C / FFP	NAVSEA	Feb 2019	May 2020	12	408,000.00	Y		
2.1.2) MK 30 CANISTER ^(†)		2018	Raytheon CO / Tucson AZ	SS / FFP	NAVSEA	Jun 2018	Sep 2019	32	300,000.00	Y		
2.1.2) MK 30 CANISTER ^(†)		2019	Raytheon CO / Tucson AZ	SS / FFP	NAVSEA	Oct 2018	Jan 2020	16	306,000.00	Y		
3.1.1) MK 41 AEGIS ALL UP ROUND MISSILE HARDWARE ^(†)		2015	Raytheon CO ⁽⁶⁾ / Tucson, AZ	SS / FFP	NAVSEA	Mar 2015	Mar 2017	41	1,023K	Y		Oct 2013
3.1.1) MK 41 AEGIS ALL UP ROUND MISSILE HARDWARE ^(†)		2016 ⁽⁷⁾	Raytheon CO ⁽⁶⁾ / Tucson, AZ	SS / FFP	NAVSEA	Mar 2016	Mar 2018	12	1,038K	Y		Oct 2014
3.1.1) MK 41 AEGIS ALL UP ROUND MISSILE HARDWARE ^(†)		2017 ⁽⁸⁾	Raytheon CO ⁽⁶⁾ / Tucson, AZ	SS / FFP	NAVSEA	May 2017	May 2019	49	1,201K	Y		Oct 2015
3.1.2) MK 29 ALL UP ROUNDS MISSILE HARDWARE ^(†)		2015	Raytheon CO / Tucson, AZ	SS / FFP	NAVSEA	Mar 2015	Mar 2017	63	898,825.40	Y	Mar 2000	Jun 2013
3.1.2) MK 29 ALL UP ROUNDS MISSILE HARDWARE ^(†)		2016 ⁽⁹⁾	Raytheon CO / Tucson, AZ	SS / FFP	NAVSEA	Mar 2016	Mar 2018	18	971,944.44	Y	Mar 2000	Jun 2014
3.1.3) MK 57 ALLUP ROUNDS MISSILE HARDWARE ^(†)		2017 ⁽¹⁰⁾	Raytheon CO / Tucson, AZ	SS / FFP	NAVSEA	Oct 2016	Oct 2018	24	1,277K	Y		
3.1.5) ESSM BLOCK 2 ^(†)		2018	Raytheon CO / Tucson, AZ	SS / FPIF	NAVSEA	Aug 2018	Aug 2020	30	1,768K	Y	Oct 2017	Oct 2017
3.1.5) ESSM BLOCK 2 ^(†)	✓	2018	Raytheon CO / Tucson, AZ	SS / FPIF	NAVSEA	Aug 2018	Aug 2020	1	1,768K	Y	Oct 2017	Oct 2017
3.1.5) ESSM BLOCK 2 ^(†)		2019	Raytheon CO / Tucson, AZ	SS / FPIF	NAVSEA	Oct 2018	Oct 2020	45	1,742K	Y		Oct 2018
3.1.6) WARHEAD COMPATIBLE TELEMETER ^(†)		2015	Raytheon CO / Tucson, AZ	SS / FFP	NAVSEA	Mar 2015	Sep 2017	41	74,829.27	Y	Mar 2000	Jun 2014
3.1.6) WARHEAD COMPATIBLE TELEMETER ^(†)		2016 ⁽¹¹⁾	Raytheon CO / Tucson, AZ	SS / FFP	NAVSEA	Mar 2016	Sep 2018	6	76,333.33	Y	Mar 2000	Jun 2015
3.1.6) WARHEAD COMPATIBLE TELEMETER ^(†)		2017 ⁽¹²⁾	Raytheon CO / Tucson, AZ	SS / FFP	NAVSEA	May 2017	Nov 2019	28	76,320.00	Y	Mar 2000	Jun 2016
4.1.1) GMS Shipping Containers ^(†)		2018	Raytheon CO / Tucson AZ	SS / FPIF	NAVSEA	Sep 2018	Sep 2019	10	35,000.00	Y		

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Exhibit P-5a, Procurement History and Planning: PB 2019 Navy									Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 3			P-1 Line Item Number / Title: 2307 / Evolved Sea Sparrow Missile (ESSM)						Item Number / Title [DODIC]: 1 / Evolved Sea Sparrow Missile (ESSM)			
Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$)	Specs Avail Now?	Date Revision Available	RFP Issue Date
4.1.2) ESSM SHIPPING CONTAINERS ^(†)		2015	Raytheon CO / Tucson, AZ	SS / FFP	NAVSEA	Mar 2015	May 2017	63	6,031.75	Y	Mar 2000	Oct 2014
4.1.2) ESSM SHIPPING CONTAINERS ^(†)		2016 ⁽¹³⁾	Raytheon CO / Tucson, AZ	SS / FFP	NAVSEA	Dec 2016	Feb 2019	18	6,166.67	Y	Mar 2000	Oct 2015

^(†) indicates the presence of a P-21

Footnotes:

⁽⁶⁾ ESSM is a cooperative effort among ten NATO SEASPARROW nations which contributes to MSR.

⁽⁷⁾ Included on the FY 2016 - FY 2017 Multi-Year Procurement contract.

⁽⁸⁾ Included on the FY 2016 - FY 2017 Multi-Year Procurement contract.

⁽⁹⁾ Included on the FY 2016 - FY 2017 Multi-Year Procurement contract.

⁽¹⁰⁾ Included on the FY 2016 - FY 2017 Multi-Year Procurement contract.

⁽¹¹⁾ Included on the FY 2016 - FY 2017 Multi-Year Procurement contract.

⁽¹²⁾ Included on the FY 2016 - FY 2017 Multi-Year Procurement contract.

⁽¹³⁾ Included on the FY 2016 - FY 2017 Multi-Year Procurement contract.

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Exhibit P-21, Production Schedule: PB 2019 Navy																				Date: February 2018															
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 3										P-1 Line Item Number / Title: 2307 / Evolved Sea Sparrow Missile (ESSM)										Item Number / Title [DODIC]: 1 / Evolved Sea Sparrow Missile (ESSM)															
Cost Elements <i>(Units in Each)</i>							Fiscal Year 2015										Fiscal Year 2016													B A L A N C E					
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2014	BAL DUE AS OF 1 OCT	Calendar Year 2015															Calendar Year 2016													
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G		S E P				
2.1.1) MK 25 QUADPACK CANISTERS ⁽¹⁾																																			
Prior Years Deliveries: 145																																			
	1	2016	NAVY	3	0	3														A - - - - - - -													3		
	1	2017	NAVY	19	0	19																											19		
	1	2018	NAVY	8	0	8																											8		
	1	2019	NAVY	12	0	12																											12		
2.1.2) MK 30 CANISTER																																			
	2	2018	NAVY	32	0	32																											32		
	2	2019	NAVY	16	0	16																											16		
3.1.1) MK 41 AEGIS ALL UP ROUND MISSILE HARDWARE																																			
Prior Years Deliveries: 440																																			
	3	2015	NAVY	41	0	41														A - - - - - - - - - - - - - - - -	- - - - - - -	41													
	3	2016	NAVY	12	0	12														A - - - - - - -													12		
	3	2017	NAVY	49	0	49																											49		
3.1.2) MK 29 ALL UP ROUNDS MISSILE HARDWARE																																			
Prior Years Deliveries: 380																																			
	4	2015	NAVY	63	0	63														A - - - - - - - - - - - - - - - -	- - - - - - -	63													
	4	2016	NAVY	18	0	18														A - - - - - - -													18		
3.1.3) MK 57 ALLUP ROUNDS MISSILE HARDWARE																																			
Prior Years Deliveries: 6																																			
	5	2017	NAVY	24	0	24																											24		
3.1.5) ESSM BLOCK 2																																			
	6	2018	NAVY	30	0	30																											30		
✓	6	2018	NAVY	1	0	1																											1		
	6	2019	NAVY	45	0	45																											45		
3.1.6) WARHEAD COMPATIBLE TELEMETER																																			
Prior Years Deliveries: 169																																			
	7	2015	NAVY	41	0	41														A - - - - - - - - - - - - - - - -	- - - - - - -	41													
	7	2016	NAVY	6	0	6														A - - - - - - -													6		
	7	2017	NAVY	28	0	28																											28		
4.1.1) GMS Shipping Containers ⁽²⁾																																			
	8	2018	NAVY	10	0	10																											10		
4.1.2) ESSM SHIPPING CONTAINERS																																			
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P					

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Exhibit P-21, Production Schedule: PB 2019 Navy																				Date: February 2018													
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 3							P-1 Line Item Number / Title: 2307 / Evolved Sea Sparrow Missile (ESSM)													Item Number / Title [DODIC]: 1 / Evolved Sea Sparrow Missile (ESSM)													
Cost Elements (Units in Each)							Fiscal Year 2015													Fiscal Year 2016													BALANCE
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2014	BAL DUE AS OF 1 OCT	Calendar Year 2015													Calendar Year 2016													
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP			
Prior Years Deliveries: 386																																	
	9	2015	NAVY	63	0	63						A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	63		
	9	2016	NAVY	18	0	18																									18		
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP			

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Exhibit P-21, Production Schedule: PB 2019 Navy																				Date: February 2018												
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 3										P-1 Line Item Number / Title: 2307 / Evolved Sea Sparrow Missile (ESSM)										Item Number / Title [DODIC]: 1 / Evolved Sea Sparrow Missile (ESSM)												
Cost Elements <i>(Units in Each)</i>							Fiscal Year 2017										Fiscal Year 2018													B A L A N C E		
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEP T P R I O R T O 1 O C T 2016	BAL DUE AS OF 1 OCT	Calendar Year 2017										Calendar Year 2018															
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G		S E P	
2.1.1) MK 25 QUADPACK CANISTERS ⁽¹⁾																																
Prior Years Deliveries: 145																																
	1	2016	NAVY	3	0	3	-	-	-	-	-	-	-	-	3																	0
	1	2017	NAVY	19	0	19								A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-		17
	1	2018	NAVY	8	0	8																	A -	-	-	-	-	-	-	-		8
	1	2019	NAVY	12	0	12																										12
2.1.2) MK 30 CANISTER																																
	2	2018	NAVY	32	0	32																					A -	-	-	-		32
	2	2019	NAVY	16	0	16																										16
3.1.1) MK 41 AEGIS ALL UP ROUND MISSILE HARDWARE																																
Prior Years Deliveries: 440																																
	3	2015	NAVY	41	0	41	-	-	-	-	-	4	4	4	3	4	4	3	3	3	3	3	3									0
	3	2016	NAVY	12	0	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	2	2	2	2				0
	3	2017	NAVY	49	0	49								A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		49
3.1.2) MK 29 ALL UP ROUNDS MISSILE HARDWARE																																
Prior Years Deliveries: 380																																
	4	2015	NAVY	63	0	63	-	-	-	-	-	5	5	5	5	5	5	5	5	5	6	6	6									0
	4	2016	NAVY	18	0	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	2	2	2	2	2	2		4
3.1.3) MK 57 ALLUP ROUNDS MISSILE HARDWARE																																
Prior Years Deliveries: 6																																
	5	2017	NAVY	24	0	24	A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		24
3.1.5) ESSM BLOCK 2																																
	6	2018	NAVY	30	0	30																						A -	-		30	
✓	6	2018	NAVY	1	0	1																						A -	-		1	
	6	2019	NAVY	45	0	45																										45
3.1.6) WARHEAD COMPATIBLE TELEMETER																																
Prior Years Deliveries: 169																																
	7	2015	NAVY	41	0	41	-	-	-	-	-	-	-	-	-	-	5	6	6	8	6	5	5									0
	7	2016	NAVY	6	0	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2			4	
	7	2017	NAVY	28	0	28								A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		28	
4.1.1) GMS Shipping Containers ⁽²⁾																																
	8	2018	NAVY	10	0	10																							A -		10	
4.1.2) ESSM SHIPPING CONTAINERS																																
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P		

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Exhibit P-21, Production Schedule: PB 2019 Navy																				Date: February 2018														
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 3							P-1 Line Item Number / Title: 2307 / Evolved Sea Sparrow Missile (ESSM)													Item Number / Title [DODIC]: 1 / Evolved Sea Sparrow Missile (ESSM)														
Cost Elements (Units in Each)							Fiscal Year 2017													Fiscal Year 2018													BALANCE	
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2016	BAL DUE AS OF 1 OCT	Calendar Year 2017													Calendar Year 2018														
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P				
Prior Years Deliveries: 386																																		
	9	2015	NAVY	63	0	63	-	-	-	-	-	-	-	-	15	21	8	10	9														0	
	9	2016	NAVY	18	0	18			A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P				

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Exhibit P-21, Production Schedule: PB 2019 Navy																				Date: February 2018											
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 3										P-1 Line Item Number / Title: 2307 / Evolved Sea Sparrow Missile (ESSM)										Item Number / Title [DODIC]: 1 / Evolved Sea Sparrow Missile (ESSM)											
Cost Elements (Units in Each)							Fiscal Year 2019										Fiscal Year 2020														BALANCE
OCO	MFR#	FY	SERVICE	PROC QTY	ACCEP PRIOR TO 1 OCT 2018	BAL DUE AS OF 1 OCT	Calendar Year 2019										Calendar Year 2020														
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
2.1.1) MK 25 QUADPACK CANISTERS ⁽¹⁾																															
Prior Years Deliveries: 145																															
	1	2016	NAVY	3	3	0																									0
	1	2017	NAVY	19	2	17	2	2	2	2	2	3	2	2																	0
	1	2018	NAVY	8	0	8	-	-	-	-	-	-	-	2	2	2															0
	1	2019	NAVY	12	0	12					A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	7
2.1.2) MK 30 CANISTER																															
	2	2018	NAVY	32	0	32	-	-	-	-	-	-	-	-	-	-	4	4	4	4	4	4	4	4					0		
	2	2019	NAVY	16	0	16	A	-	-	-	-	-	-	-	-	-	-	-	-	-	4	4	4	4					0		
3.1.1) MK 41 AEGIS ALL UP ROUND MISSILE HARDWARE																															
Prior Years Deliveries: 440																															
	3	2015	NAVY	41	41	0																									0
	3	2016	NAVY	12	12	0																									0
	3	2017	NAVY	49	0	49	-	-	-	-	-	-	-	5	5	5	3	4	6	4	6	4	3	2	2					0	
3.1.2) MK 29 ALL UP ROUNDS MISSILE HARDWARE																															
Prior Years Deliveries: 380																															
	4	2015	NAVY	63	63	0																									0
	4	2016	NAVY	18	14	4	2	2																							0
3.1.3) MK 57 ALLUP ROUNDS MISSILE HARDWARE																															
Prior Years Deliveries: 6																															
	5	2017	NAVY	24	0	24	3	3	3	3	3	3	3	3																	0
3.1.5) ESSM BLOCK 2																															
	6	2018	NAVY	30	0	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	4	18	
✓	6	2018	NAVY	1	0	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1		0	
	6	2019	NAVY	45	0	45	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	45	
3.1.6) WARHEAD COMPATIBLE TELEMETER																															
Prior Years Deliveries: 169																															
	7	2015	NAVY	41	41	0																									0
	7	2016	NAVY	6	2	4	2	2																							0
	7	2017	NAVY	28	0	28	-	-	-	-	-	-	-	-	-	-	-	-	7	7	7	7								0	
4.1.1) GMS Shipping Containers ⁽²⁾																															
	8	2018	NAVY	10	0	10	-	-	-	-	-	-	-	-	-	-	5	5													0
4.1.2) ESSM SHIPPING CONTAINERS																															
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	

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Exhibit P-21, Production Schedule: PB 2019 Navy																			Date: February 2018													
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 3							P-1 Line Item Number / Title: 2307 / Evolved Sea Sparrow Missile (ESSM)												Item Number / Title [DODIC]: 1 / Evolved Sea Sparrow Missile (ESSM)													
Cost Elements <i>(Units in Each)</i>							Fiscal Year 2019												Fiscal Year 2020												BALANCE	
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2018	BAL DUE AS OF 1 OCT	Calendar Year 2019												Calendar Year 2020													
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
Prior Years Deliveries: 386																																
	9	2015	NAVY		63	0																									0	
	9	2016	NAVY		18	0	18	-	-	-	-	4	4	4	4	2																0
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		

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Exhibit P-21, Production Schedule: PB 2019 Navy																				Date: February 2018														
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 3										P-1 Line Item Number / Title: 2307 / Evolved Sea Sparrow Missile (ESSM)										Item Number / Title [DODIC]: 1 / Evolved Sea Sparrow Missile (ESSM)														
Cost Elements (Units in Each)							Fiscal Year 2021										Fiscal Year 2022														B A L A N C E			
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2020	BAL DUE AS OF 1 OCT	Calendar Year 2021																	Calendar Year 2022										
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P				
2.1.1) MK 25 QUADPACK CANISTERS ⁽¹⁾																																		
Prior Years Deliveries: 145																																		
	1	2016	NAVY	3	3	0																											0	
	1	2017	NAVY	19	19	0																											0	
	1	2018	NAVY	8	8	0																											0	
	1	2019	NAVY	12	5	7	1	1	1	1	1	1	1																				0	
2.1.2) MK 30 CANISTER																																		
	2	2018	NAVY	32	32	0																											0	
	2	2019	NAVY	16	16	0																											0	
3.1.1) MK 41 AEGIS ALL UP ROUND MISSILE HARDWARE																																		
Prior Years Deliveries: 440																																		
	3	2015	NAVY	41	41	0																											0	
	3	2016	NAVY	12	12	0																											0	
	3	2017	NAVY	49	49	0																											0	
3.1.2) MK 29 ALL UP ROUNDS MISSILE HARDWARE																																		
Prior Years Deliveries: 380																																		
	4	2015	NAVY	63	63	0																											0	
	4	2016	NAVY	18	18	0																											0	
3.1.3) MK 57 ALLUP ROUNDS MISSILE HARDWARE																																		
Prior Years Deliveries: 6																																		
	5	2017	NAVY	24	24	0																											0	
3.1.5) ESSM BLOCK 2																																		
	6	2018	NAVY	30	12	18	4	4	4	4	2																						0	
✓	6	2018	NAVY	1	1	0																											0	
	6	2019	NAVY	45	0	45	6	6	6	6	6	6	6	3																			0	
3.1.6) WARHEAD COMPATIBLE TELEMETER																																		
Prior Years Deliveries: 169																																		
	7	2015	NAVY	41	41	0																											0	
	7	2016	NAVY	6	6	0																											0	
	7	2017	NAVY	28	28	0																											0	
4.1.1) GMS Shipping Containers ⁽²⁾																																		
	8	2018	NAVY	10	10	0																											0	
4.1.2) ESSM SHIPPING CONTAINERS																																		
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P				

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Exhibit P-21, Production Schedule: PB 2019 Navy																			Date: February 2018																
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 3							P-1 Line Item Number / Title: 2307 / Evolved Sea Sparrow Missile (ESSM)												Item Number / Title [DODIC]: 1 / Evolved Sea Sparrow Missile (ESSM)																
Cost Elements (Units in Each)							Fiscal Year 2021												Fiscal Year 2022												BALANCE				
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2020	BAL DUE AS OF 1 OCT	Calendar Year 2021												Calendar Year 2022																
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P					
Prior Years Deliveries: 386																																			0
	9	2015	NAVY	63	63	0																													0
	9	2016	NAVY	18	18	0																													0
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P					

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Exhibit P-21, Production Schedule: PB 2019 Navy							Date: February 2018
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 3				P-1 Line Item Number / Title: 2307 / Evolved Sea Sparrow Missile (ESSM)			Item Number / Title [DODIC]: 1 / Evolved Sea Sparrow Missile (ESSM)

MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Year)			Procurement Leadtime (Months)							
		MSR For 2019	1-8-5 For 2019	MAX For 2019	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	BAE - Minneapolis, MN	45	82	120	0	5	15	20	5	5	15	20
2	Raytheon CO - Tucson AZ	45	85	120	0	5	15	20	5	5	15	20
3	Raytheon CO ⁽⁶⁾ - Tucson, AZ	180	300	420	8	2	24	26	2	2	24	26
4	Raytheon CO - Tucson, AZ	180	300	420	8	2	24	26	2	2	24	26
5	Raytheon CO - Tucson, AZ	180	300	420	8	2	24	26	2	2	24	26
6	Raytheon CO - Tucson, AZ	180	300	420	8	2	24	26	2	2	24	26
7	Raytheon CO - Tucson, AZ	180	300	420	0	0	30	30	0	0	30	30
8	Raytheon CO - Tucson AZ				0	0	0	0	0	0	0	0
9	Raytheon CO - Tucson, AZ				0	0	26	26	0	0	26	26

"A" in the Delivery Schedule indicates the Contract Award Date.

Note: Due to space limitations, quantities in the Exhibit P-21 delivery calendar are truncated and rounded based on the maximum quantity in the calendar as follows. If the maximum quantity is less than or equal to than 9,999, all quantities are shown as each. If the maximum quantity is between 10,000 and 999,999 all quantities are shown in thousands. If the maximum quantity is between 1,000,000 and 999,999,999 all quantities are shown in millions (rounded to the nearest thousand). If the maximum quantity is equal or greater than 1,000,000,000 all quantities are shown in billions (rounded to the nearest million).

Footnotes:

⁽⁶⁾ ESSM is a cooperative effort among ten NATO SEASPARROW nations which contributes to MSR.

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy **Date:** February 2018

Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 02: Other Missiles / BSA 3: Modification of Missiles	P-1 Line Item Number / Title: 2326 / Harpoon Mods
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ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	0.000	0.000	17.300	14.840	0.000	14.840	10.006	9.959	3.941	3.943	-	59.989
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	0.000	0.000	17.300	14.840	0.000	14.840	10.006	9.959	3.941	3.943	-	59.989
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	0.000	0.000	17.300	14.840	0.000	14.840	10.006	9.959	3.941	3.943	-	59.989
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

The Harpoon Block II+ kit procurement provides the Department of Navy (DoN) with an expanded navigation and targeting accuracy over the current Harpoons within the DoN inventory. The program budget identifies the significance of the modifications and the importance of a network enabled anti-ship cruise missile as well as its complimentary capabilities with advanced launch platforms. The current DoN inventory consists of legacy systems that are insufficient against the number and type of current and future threats. The DoN's planned procurement would procure and modify legacy Harpoons with the improved kits and procurement of Captive Air Training Missiles (CATMs), to advance the DoN's anti-ship cruise missile capability and contribute to the defense of the Surface Fleet.

Harpoon Block II+ is a Net Enabled, Air-Launched, Anti-ship Cruise weapon with the ability to receive in-flight updates that improve the targeting and engagement of moving maritime targets. This system utilizes global positioning to provide in-flight updates coupled with an active radar seeker to provide accurate targeting.

The Harpoon seeker upgrade effort will modernize current seeker configurations to increase the precision of targeting. Currently, Harpoon missiles contain 3700-3. The 3700-series seekers operate by sequentially searching a pre-defined Area of Uncertainty (AOU). The seeker was designed to detect, acquire and track any surface target that happens to be in that zone. A newer seeker provides value to the warfighter through significant improvements in the sequential search radar seekers' probability of acquiring the intended target. Improvements in 3700-4+ Electronic Protection capability significantly increases the probability of engaging a valid surface target in a complex environment.

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy								Date: February 2018	
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 02: Other Missiles / BSA 3: Modification of Missiles						P-1 Line Item Number / Title: 2326 / Harpoon Mods			
ID Code (A=Service Ready, B=Not Service Ready): A				Program Elements for Code B Items: N/A			Other Related Program Elements: N/A		
Line Item MDAP/MAIS Code: N/A									

Exhibits Schedule					Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-3a	1 / Harpoon Block II+ (Added Capability)				- / 0.000	- / 0.000	- / 17.300	- / 14.840	- / 0.000	- / 14.840
P-40	Total Gross/Weapon System Cost				- / 0.000	- / 0.000	- / 17.300	- / 14.840	- / 0.000	- / 14.840

Exhibits Schedule					FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-3a	1 / Harpoon Block II+ (Added Capability)				- / 10.006	- / 9.959	- / 3.941	- / 3.943	- / 0.000	- / 59.989
P-40	Total Gross/Weapon System Cost				- / 10.006	- / 9.959	- / 3.941	- / 3.943	- / -	- / 59.989

*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.

Justification:

FY 2019 provides funding to procure 44 Harpoon Block II+ kits and 8 Captive Air Test Missiles (CATM). The Harpoon Block II+ kits support retrofitting the Harpoon 1C weapons in inventory. The CATM will provide fleet operators with loading, handling and employment training. Modifying the Harpoon 1C inventory to the Harpoon Block II+ will result in higher average reliability with increased target selectivity. Installation of kits procured in FY 2018 begins in FY 2019.

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Exhibit P-3a, Individual Modification: PB 2019 Navy							Date: February 2018				
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 3				P-1 Line Item Number / Title: 2326 / Harpoon Mods				Modification Number / Title: 1 / Harpoon Block II+			

ID Code (A=Service Ready, B=Not Service Ready) :						MDAP/MAIS Code:						
Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	0.000	0.000	17.300	14.840	0.000	14.840	10.006	9.959	3.941	3.943	0.000	59.989
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	0.000	0.000	17.300	14.840	0.000	14.840	10.006	9.959	3.941	3.943	0.000	59.989
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	0.000	0.000	17.300	14.840	0.000	14.840	10.006	9.959	3.941	3.943	0.000	59.989
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)												
Initial Spares (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Dollars)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

FY 2019 provides funding to procure 44 Harpoon Block II+ kits and 8 Captive Air Test Missiles (CATM). The Harpoon Block II+ kits support retrofitting the Harpoon 1C weapons in inventory. The CATM will provide fleet operators with loading, handling and employment training. Modifying the Harpoon 1C inventory to the Harpoon Block II+ will result in higher average reliability with increased target selectivity.

Installation of kits procured in FY 2018 begins in FY 2019.

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Exhibit P-3a, Individual Modification: PB 2019 Navy										Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 3				P-1 Line Item Number / Title: 2326 / Harpoon Mods						Modification Number / Title: 1 / Harpoon Block II+			
ID Code (A=Service Ready, B=Not Service Ready) :								MDAP/MAIS Code:					
Models of Systems Affected: RGM-84M and AGM-84M				Modification Type: Added Capability				Related RDT&E PEs:					
Financial Plan	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total	
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	
Procurement													
Modification Item 1 of 1: Harpoon Block II+													
B Kits													
Recurring													
1.1.1) Harpoon Block II+ Installation Kits - NonOrganic (1)	- / -	- / -	54 / 12.895	44 / 10.717	- / -	44 / 10.717	28 / 6.957	24 / 6.082	- / -	- / -	- / -	150 / 36.651	
1.1.2) Captive Air Test Missiles - NonOrganic	- / -	- / -	- / -	8 / 2.240	- / -	8 / 2.240	7 / 1.925	3 / 0.800	- / -	- / -	- / -	18 / 4.965	
1.1.3) Seekers - NonOrganic (2)	- / -	- / -	- / -	- / -	- / -	- / -	- / -	10 / 1.700	20 / 3.400	20 / 3.400	- / -	50 / 8.500	
Subtotal: Recurring	- / 0.000	- / -	- / 12.895	- / 12.957	- / -	- / 12.957	- / 8.882	- / 8.582	- / 3.400	- / 3.400	- / 0.000	- / 50.116	
Non-Recurring													
1.2.1) Non-Recurring - Organic (3)	- / -	- / -	- / 1.500	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 1.500	
Subtotal: Non-Recurring	- / 0.000	- / -	- / 1.500	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 1.500	
Subtotal: Harpoon Block II+	- / -	- / -	54 / 14.395	52 / 12.957	- / -	52 / 12.957	35 / 8.882	37 / 8.582	20 / 3.400	20 / 3.400	- / -	218 / 51.616	
Subtotal: Procurement, All Modification Items	- / 0.000	- / -	- / 14.395	- / 12.957	- / -	- / 12.957	- / 8.882	- / 8.582	- / 3.400	- / 3.400	- / 0.000	- / 51.616	
Support (All Modification Items)													
2.1) Test Support	- / -	- / -	- / 0.145	- / 0.094	- / -	- / 0.094	- / 0.056	- / 0.069	- / 0.027	- / 0.027	- / -	- / 0.418	
2.2) Production Engineering Support (PES)	- / -	- / -	- / 1.743	- / 1.130	- / -	- / 1.130	- / 0.674	- / 0.826	- / 0.325	- / 0.326	- / -	- / 5.024	
2.3) Training	- / -	- / -	- / 0.145	- / 0.094	- / -	- / 0.094	- / 0.056	- / 0.069	- / 0.027	- / 0.027	- / -	- / 0.418	
2.4) Integrated Logistics Supt (ILS)	- / -	- / -	- / 0.872	- / 0.565	- / -	- / 0.565	- / 0.338	- / 0.413	- / 0.162	- / 0.163	- / -	- / 2.513	
Subtotal: Support	- / 0.000	- / -	- / 2.905	- / 1.883	- / -	- / 1.883	- / 1.124	- / 1.377	- / 0.541	- / 0.543	- / 0.000	- / 8.373	
Installation													
Modification Item 1 of 1: Harpoon Block II+	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	
Subtotal: Installation	- / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	
Total													
Total Cost (Procurement + Support + Installation)	0.000	0.000	17.300	14.840	0.000	14.840	10.006	9.959	3.941	3.943	0.000	59.989	

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Exhibit P-3a, Individual Modification: PB 2019 Navy										Date: February 2018																							
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 3					P-1 Line Item Number / Title: 2326 / Harpoon Mods										Modification Number / Title: 1 / Harpoon Block II+																		
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:																							
Modification Item 1 of 1: Harpoon Block II+																																	
Manufacturer Information																																	
Manufacturer Name: Boeing													Manufacturer Location: St. Louis, Missouri																				
Administrative Leadtime (in Months): 4													Production Leadtime (in Months): 18																				
Dates		FY 2017			FY 2018			FY 2019			FY 2020			FY 2021			FY 2022			FY 2023													
Contract Dates					Jun 2018			Feb 2019			Jan 2020			Jan 2021			Jan 2022																
Delivery Dates					Dec 2019			Aug 2020			Jul 2021			Jul 2022			Jul 2023																
Manufacturer Name: L3/Mustang													Manufacturer Location: Plano, TX																				
Administrative Leadtime (in Months): 4													Production Leadtime (in Months): 18																				
Dates		FY 2017			FY 2018			FY 2019			FY 2020			FY 2021			FY 2022			FY 2023													
Contract Dates														Jan 2021			Jan 2022			Jan 2023													
Delivery Dates														Jul 2022			Jul 2023			Jul 2024													
Installation Information																																	
Method of Implementation: [none specified]:: Installation Name: Harpoon Block II+ Installation Kits																																	
Installation Cost		Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total																				
		Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)																				
Prior Years		- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -																				
FY 2017		- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -																				
FY 2018		- / -	- / -	- / -	54 / 0.000	0 / 0.000	54 / 0.000	- / -	- / -	- / -	- / -	0 / 0.000	54 / -																				
FY 2019		- / -	- / -	- / -	- / -	- / -	- / -	44 / 0.000	- / -	- / -	- / -	0 / 0.000	44 / -																				
FY 2020		- / -	- / -	- / -	- / -	- / -	- / -	- / -	28 / 0.000	- / -	- / -	0 / 0.000	28 / -																				
FY 2021		- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	24 / 0.000	- / -	0 / 0.000	24 / -																				
FY 2022		- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -																				
FY 2023		- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -																				
To Complete		- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -																				
Total		- / -	- / -	- / -	54 / 0.000	0 / 0.000	54 / 0.000	44 / 0.000	28 / 0.000	24 / 0.000	- / -	0 / 0.000	150 / -																				
Installation Schedule																																	
	PYS	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				TC	Tot		
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4				
In	-	-	-	-	-	-	-	-	-	-	-	-	27	27	-	-	22	22	-	-	14	14	-	-	12	12	-	-	-	-	-	150	
Out	-	-	-	-	-	-	-	-	-	-	-	-	-	27	27	-	-	22	22	-	-	14	14	-	-	12	12	-	-	-	-	-	150

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Exhibit P-3a, Individual Modification: PB 2019 Navy										Date: February 2018																						
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 3					P-1 Line Item Number / Title: 2326 / Harpoon Mods					Modification Number / Title: 1 / Harpoon Block II+																						
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:																						
Modification Item 1 of 1: Harpoon Block II+																																
Installation Information																																
Method of Implementation: [none specified]:: Installation Name: Captive Air Test Missiles																																
Installation Cost		Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total																			
		Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)																			
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Installation Schedule																																
	PYS	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				TC	Tot	
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4							
In	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	4	-	-	4	3	-	-	2	1	-	-	-	-	-	18	
Out	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	4	-	-	4	3	-	-	2	1	-	-	-	-	-	18
Method of Implementation: [none specified]:: Installation Name: Seekers																																
Installation Cost		Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total																			
		Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)																			
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Exhibit P-3a, Individual Modification: PB 2019 Navy										Date: February 2018																					
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 3										P-1 Line Item Number / Title: 2326 / Harpoon Mods										Modification Number / Title: 1 / Harpoon Block II+											
ID Code (A=Service Ready, B=Not Service Ready) :															MDAP/MAIS Code:																
Modification Item 1 of 1: Harpoon Block II+																															
Installation Information																															
Method of Implementation: [none specified]:: Installation Name: Seekers																															
Installation Cost		Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total																		
		<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>																
Total		- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	10 / 0.000	20 / 0.000	20 / 0.000	50 / -																		
Installation Schedule																															
	PYS	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				TC	Tot
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
In	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	5	-	-	10	10	20	50
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Footnotes: ⁽¹⁾ Installation Kits and CATMs manufactured by Boeing. ⁽²⁾ Seekers manufactured by L3/Mustang. ⁽³⁾ The FY 2018 \$1.5 million covers the additional design work needed to develop a Harpoon Block II+ CATM.																															

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy										Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 02: Other Missiles / BSA 3: Modification of Missiles							P-1 Line Item Number / Title: 2327 / HARM Mods					
ID Code (A=Service Ready, B=Not Service Ready): A				Program Elements for Code B Items: N/A				Other Related Program Elements: 0205601N				
Line Item MDAP/MAIS Code: 368												
Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	650.259	180.052	183.368	187.985	0.000	187.985	183.880	217.962	206.089	210.273	116.508	2,136.376
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	650.259	180.052	183.368	187.985	0.000	187.985	183.880	217.962	206.089	210.273	116.508	2,136.376
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	650.259	180.052	183.368	187.985	0.000	187.985	183.880	217.962	206.089	210.273	116.508	2,136.376
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
<p>Description:</p> <p>AGM-88E Advanced Anti-Radiation Guided Missile (AARGM) is an ACAT-1C acquisition program to upgrade, and is used as a complement to, the Legacy AGM-88 High Speed Anti-Radiation Missile (HARM) with multi-mode guidance and enhanced targeting capability. The AARGM program will integrate multi-mode guidance (passive Anti-Radiation Homing (ARH)/active Millimeter Wave (MMW) Radar/Global Positioning system (GPS)/Inertial Navigation System) on the HARM AGM-88 missile. The AARGM weapon system capabilities include: active MMW terminal guidance, counter shutdown, expanded threat coverage, enhanced ARH receiver, Weapon Impact Assessment (WIA) transmission prior to detonation, GPS point-to-point weapon navigation, and weapon employment with impact avoidance zone/missile impact zones. AARGM AGM-88E production units possess the capability to engage targets in the Destruction of Enemy Air Defenses (DEAD) mission area and will be able to destroy non-traditional and Overseas Contingency Operation (OCO) targets. AARGM is a cooperative program between the Department of Defense of the United States of America and the Ministry of Defense of the Republic of Italy.</p> <p>The Advanced Anti-Radiation Guided Missile Extended Range (AARGM ER) upgrade includes hardware and software improvements to AARGM's operational capabilities, including extended range, survivability, and effectiveness against complex, new and emerging threats.</p>												

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy								Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 02: Other Missiles / BSA 3: Modification of Missiles						P-1 Line Item Number / Title: 2327 / HARM Mods				
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A			Other Related Program Elements: 0205601N				
Line Item MDAP/MAIS Code: 368										
Exhibits Schedule					Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-3a	1 / HARM Mods (AARGM) (Added Capability)				- / 650.259	- / 180.052	- / 183.368	- / 187.985	- / 0.000	- / 187.985
P-3a	2 / HARM Mods (AARGM ER) (Added Capability)				- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000
P-40	Total Gross/Weapon System Cost				- / 650.259	- / 180.052	- / 183.368	- / 187.985	- / 0.000	- / 187.985
Exhibits Schedule					FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-3a	1 / HARM Mods (AARGM) (Added Capability)				- / 183.880	- / 187.962	- / 175.427	- / 178.998	- / 0.000	- / 1,927.931
P-3a	2 / HARM Mods (AARGM ER) (Added Capability)				- / 0.000	- / 30.000	- / 30.662	- / 31.275	- / 116.508	- / 208.445
P-40	Total Gross/Weapon System Cost				- / 183.880	- / 217.962	- / 206.089	- / 210.273	- / 116.508	- / 2,136.376
*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.										
Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.										
<p>Justification:</p> <p>FY 2019 funds the increase in AARGM modifications kits for All-Up-Rounds (AURs) from 243 units budgeted in FY 2018 to 252 units in FY 2019, container modifications from 126 in FY 2018 to 129 units in FY 2019, and the increase in telemetry section from 36 units in FY 2018 to 48 units in FY 2019.</p> <p>FY 2019 funding supports the procurement of AARGM modifications kits for AURs, Captive Air Training Missiles (CATMs), container modifications, telemetry sections, support equipment, engineering and logistics support, Engineering Change Orders (ECO), contractor Other Production Support (OPS), Special Tooling/Special Test Equipment (ST/STE) and Diminishing Manufacturing Sources (DMS).</p> <p>The FY 2019 funding request was reduced by \$0.144 million to reflect the Department of Navy's effort to support the Office of Management and Budget directed reforms for Efficiency and Effectiveness that include a lean, accountable, more efficient government.</p>										

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Exhibit P-3a, Individual Modification: PB 2019 Navy							Date: February 2018				
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 3				P-1 Line Item Number / Title: 2327 / HARM Mods				Modification Number / Title: 1 / HARM Mods (AARGM)			

ID Code (A=Service Ready, B=Not Service Ready) :						MDAP/MAIS Code:						
Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	650.259	180.052	183.368	187.985	0.000	187.985	183.880	187.962	175.427	178.998	0.000	1,927.931
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	650.259	180.052	183.368	187.985	0.000	187.985	183.880	187.962	175.427	178.998	0.000	1,927.931
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	650.259	180.052	183.368	187.985	0.000	187.985	183.880	187.962	175.427	178.998	0.000	1,927.931
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)												
Initial Spares (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Dollars)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

AARGM is an ACAT-1C acquisition program to upgrade, and is used as a complement to, the Legacy AGM-88 HARM missile with multi-mode/multi-spectral guidance and enhanced targeting. Full-Rate Production (FRP) decision was granted on 4 September 2012. FRP Lot 6 contract funded with FY 2017 was awarded 4QFY2017 with deliveries commencing in April 2019.

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Exhibit P-3a, Individual Modification: PB 2019 Navy									Date: February 2018				
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 3				P-1 Line Item Number / Title: 2327 / HARM Mods					Modification Number / Title: 1 / HARM Mods (AARGM)				
ID Code (A=Service Ready, B=Not Service Ready) :							MDAP/MAIS Code:						
Models of Systems Affected: AGM-88E			Modification Type: Added Capability					Related RDT&E PEs: 0205601N					
Financial Plan	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total	
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	
Procurement													
Modification Item 1 of 1: HARM Mods (AARGM)													
A Kits													
Recurring													
1.1.1) ES010 AUR Installation Kits - Organic ⁽¹⁾		564 / 389.310	241 / 146.050	243 / 142.882	252 / 143.858	- / -	252 / 143.858	243 / 140.543	242 / 142.082	247 / 145.951	268 / 157.431	- / -	2,300 / 1,408.107
1.1.2) ES990 Training Equipment (CATMs) - Organic ⁽²⁾		102 / 71.861	6 / 3.636	8 / 4.704	5 / 2.854	- / -	5 / 2.854	- / -	- / -	- / -	- / -	- / -	121 / 83.055
Subtotal: Recurring		- / 461.171	- / 149.686	- / 147.586	- / 146.712	- / -	- / 146.712	- / 140.543	- / 142.082	- / 145.951	- / 157.431	- / 0.000	- / 1,491.162
Subtotal: HARM Mods (AARGM)		666 / 461.171	247 / 149.686	251 / 147.586	257 / 146.712	- / -	257 / 146.712	243 / 140.543	242 / 142.082	247 / 145.951	268 / 157.431	- / -	2,421 / 1,491.162
Subtotal: Procurement, All Modification Items		- / 461.171	- / 149.686	- / 147.586	- / 146.712	- / -	- / 146.712	- / 140.543	- / 142.082	- / 145.951	- / 157.431	- / 0.000	- / 1,491.162
Support (All Modification Items)													
2.1) ES960 Containers ⁽³⁾		333 / 5.620	127 / 1.166	126 / 1.128	129 / 1.137	- / -	129 / 1.137	122 / 1.066	121 / 1.053	124 / 1.076	134 / 1.162	- / -	1,216 / 13.408
2.2) Telemetry Sections ⁽⁴⁾		- / -	10 / 1.500	36 / 11.700	48 / 15.600	- / -	48 / 15.600	53 / 17.200	53 / 17.200	- / -	- / -	- / -	200 / 63.200
2.3) ES970 Support Equipment ⁽⁵⁾		- / 8.472	- / 1.146	- / 0.809	- / 0.786	- / -	- / 0.786	- / 0.763	- / 0.741	- / 0.719	- / 0.697	- / -	- / 14.133
2.4) ES700 Engineering Change Orders ⁽⁶⁾		- / 23.304	- / 9.507	- / 2.400	- / 3.780	- / -	- / 3.780	- / 3.967	- / 5.141	- / 5.417	- / 3.022	- / -	- / 56.538
2.5) ES930 Production Engineering Support ⁽⁷⁾		- / 43.453	- / 6.475	- / 5.730	- / 5.838	- / -	- / 5.838	- / 5.942	- / 6.061	- / 6.182	- / 6.306	- / -	- / 85.987
2.6) Non-Recurring Engineering		- / 4.111	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 4.111
2.7) ES970 Integrated Logistics Support ⁽⁸⁾		- / 20.409	- / 1.274	- / 1.478	- / 1.419	- / -	- / 1.419	- / 1.447	- / 1.476	- / 1.505	- / 1.173	- / -	- / 30.181
2.8) ES950 Other Production Support ⁽⁹⁾		- / 51.779	- / 7.386	- / 7.340	- / 7.582	- / -	- / 7.582	- / 7.734	- / 8.888	- / 9.046	- / 8.207	- / -	- / 107.962
2.9) ES400 ST/STE for Production Facilitization ⁽¹⁰⁾		- / 24.534	- / 1.567	- / 3.431	- / 3.331	- / -	- / 3.331	- / 3.384	- / 3.451	- / 3.625	- / 1.000	- / -	- / 44.323
2.10) ES260 Diminishing Manufacturing Sources (DMS) ⁽¹¹⁾		- / 7.406	- / 0.345	- / 1.766	- / 1.800	- / -	- / 1.800	- / 1.834	- / 1.869	- / 1.906	- / -	- / -	- / 16.926
Subtotal: Support		- / 189.088	- / 30.366	- / 35.782	- / 41.273	- / -	- / 41.273	- / 43.337	- / 45.880	- / 29.476	- / 21.567	- / 0.000	- / 436.769
Installation													
Subtotal: Installation		- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total													
Total Cost (Procurement + Support + Installation)		650.259	180.052	183.368	187.985	0.000	187.985	183.880	187.962	175.427	178.998	0.000	1,927.931

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Exhibit P-3a, Individual Modification: PB 2019 Navy					Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 3			P-1 Line Item Number / Title: 2327 / HARM Mods			Modification Number / Title: 1 / HARM Mods (AARGM)	
ID Code (A=Service Ready, B=Not Service Ready) :					MDAP/MAIS Code:		
Modification Item 1 of 1: HARM Mods (AARGM)							
Manufacturer Information							
Manufacturer Name: Orbital ATK					Manufacturer Location: Northridge, CA		
Administrative Leadtime (<i>in Months</i>): 7					Production Leadtime (<i>in Months</i>): 23		
Dates	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
Contract Dates	Aug 2017	May 2018	May 2019	May 2020	May 2021	May 2022	May 2023
Delivery Dates	Apr 2019	Apr 2020	Apr 2021	Apr 2022	Apr 2023	Apr 2024	Apr 2025

Footnotes:

- (1) Budget reflects requirements and updates based on contract actuals, adjusting quantity and unit costs. FY 2019 projected AUR unit cost decreases from FY 2018 due to estimated savings from Radio Frequency Processor investment.
- (2) Budget reflects requirements and updates based on contract actuals, adjusting quantity and unit costs. CATMs are based on the analysis of operational fleet training requirements.
- (3) FY 2019 increase in containers due to increase in AARGM modification units, procuring one container for every two AUR missiles and/or CATMs.
- (4) Telemetry Sections provide the data required to assess flight testing and provide the flight termination capability required for range safety during live firings on United States Navy ranges. Funding is required to meet Noncombat Expenditure Allocation (NCEA) requirements. FY 2019 funding increase due to additional quantities required to meet NCEA requirements.
- (5) Support equipment includes Common Munitions Bit/Reprogramming Equipment (CMBRE), unique support equipment, and radome covers.
- (6) Engineering change orders (ECO) are used for the Cost Improvement Initiatives (CII), safety, and engineering change proposals (ECPs) to add capability, reduce missile cost and improve production. Increase in FY 2019 is required to support an additional ECO effort to improve the HARM Mods production capability.
- (7) Production Engineering Support (PES) reflect field activity requirements as stated in the approved FRP decision.
- (8) Integrated Logistics Support (ILS) budget line supports costs of maintenance, supply support, support equipment management, computer resources support, training and training support, ILS program management, and Packaging, Handling, Storage and Transportation (PHS&T).
- (9) Other Production Support (OPS) includes prime contractor production support and recurring fixed costs that are required per lot. Funding profile for OPS reflect requirements and updated based on contract actuals. Increase from FY 2018 to FY 2019 above inflation to account for quantity increase.
- (10) Special Tooling/Special Test Equipment (ST/STE) for production facilitization includes rate tooling to meet production ramp each year as well as planning, building, installing, maintaining, calibrating, repairing and replacing of ST/STE and production equipment.
- (11) Diminishing Manufacturing Sources (DMS) added to comply with Congressional direction, H.R. 933. DMS funding includes life-of-type buys due to obsolescence parts and components and other obsolescence issue resolutions. Funding reflects the programs projected obsolescence issues and can vary from year to year.

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Exhibit P-3a, Individual Modification: PB 2019 Navy		Date: February 2018
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 3	P-1 Line Item Number / Title: 2327 / HARM Mods	Modification Number / Title: 2 / HARM Mods (AARGM ER)

ID Code (A=Service Ready, B=Not Service Ready) :						MDAP/MAIS Code:						
Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity <i>(Units in Each)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost <i>(\$ in Millions)</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	30.000	30.662	31.275	116.508	208.445
Less PY Advance Procurement <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) <i>(\$ in Millions)</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	30.000	30.662	31.275	116.508	208.445
Plus CY Advance Procurement <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority <i>(\$ in Millions)</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	30.000	30.662	31.275	116.508	208.445
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost <i>(\$ in Dollars)</i>	-	-	-	-	-	-	-	-	-	-	-	-

Description:

The Advanced Anti-Radiation Guided Missile Extended Range (AARGM ER) upgrade includes hardware and software improvements to AARGM's operational capabilities, including extended range, survivability, and effectiveness against complex, new and emerging threats. Planned Initial Operating Capability (IOC) is 4Q FY 2023. The AARGM ER Low Rate Initial Production 1 is expected to award in 3Q FY 2021 with expected deliveries beginning in 2Q FY 2023.

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Exhibit P-3a, Individual Modification: PB 2019 Navy									Date: February 2018				
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 3				P-1 Line Item Number / Title: 2327 / HARM Mods					Modification Number / Title: 2 / HARM Mods (AARGM ER)				
ID Code (A=Service Ready, B=Not Service Ready) :								MDAP/MAIS Code:					
Models of Systems Affected: AGM-88E				Modification Type: Added Capability				Related RDT&E PEs: 0205601N					
Financial Plan	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total	
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	
Procurement													
Modification Item 1 of 1: HARM Mods (AARGM ER)													
A Kits													
Recurring													
1.1.1) AUR Installation Kits - Organic ⁽¹²⁾	- / -	- / -	- / -	- / -	- / -	- / -	- / -	16 / 9.100	16 / 9.282	16 / 9.468	152 / 81.624	200 / 109.474	
Subtotal: Recurring	- / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / 9.100	- / 9.282	- / 9.468	- / 81.624	- / 109.474	
Subtotal: HARM Mods (AARGM ER)	- / -	- / -	- / -	- / -	- / -	- / -	- / -	16 / 9.100	16 / 9.282	16 / 9.468	152 / 81.624	200 / 109.474	
Subtotal: Procurement, All Modification Items	- / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / 9.100	- / 9.282	- / 9.468	- / 81.624	- / 109.474	
Installation													
Subtotal: Installation	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	
Total													
Total Cost (Procurement + Support + Installation)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	30.000	30.662	31.275	116.508	208.445	

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Exhibit P-3a, Individual Modification: PB 2019 Navy				Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 3		P-1 Line Item Number / Title: 2327 / HARM Mods			Modification Number / Title: 2 / HARM Mods (AARGM ER)		
ID Code (A=Service Ready, B=Not Service Ready) :				MDAP/MAIS Code:			
Modification Item 1 of 1: HARM Mods (AARGM ER)							
Manufacturer Information							
Manufacturer Name: TBD				Manufacturer Location: TBD			
Administrative Leadtime (in Months): 2				Production Leadtime (in Months): 20			
Dates	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
Contract Dates					Dec 2020	Dec 2021	Dec 2022
Delivery Dates					Mar 2023	Mar 2024	Mar 2025

Footnotes:
(12) The AGM-88E ER AUR Installation Kits include a modification kit that will improve AARGM's operational capabilities, including extended range, survivability and effectiveness against complex, new, and emerging threats. Unit cost based on pre-Development & Integration estimate.

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy **Date:** February 2018

Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 02: Other Missiles / BSA 3: Modification of Missiles	P-1 Line Item Number / Title: 2356 / Standard Missiles Mods
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ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	0.000	8.164	11.729	0.000	0.000	0.000	59.179	106.399	200.281	250.126	Continuing	Continuing
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	0.000	8.164	11.729	0.000	0.000	0.000	59.179	106.399	200.281	250.126	Continuing	Continuing
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	0.000	8.164	11.729	0.000	0.000	0.000	59.179	106.399	200.281	250.126	Continuing	Continuing
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)												
Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

SM-2 BLK IIIAZ: The DDG 1000 Standard Missile program of record plan is to procure SM-2 BLK IIIAZ modifications to support deployment of DDG 1000 Class Ships. This line item provides funds to procure SM-2 modification kits to support the DDG 1000 program. FY 2017 is the first year for SM-2 BLK IIIAZ procurement.

FY 2017 - 2018 funding supports procurement of Standard Missile modifications to provide SM-2 BLK IIIAZ missiles for DDG 1000 Standard Missile in-service inventory requirement. Funding includes modification kit installation in SM-2 BLK IIIA rounds. SM-2 BLK IIIA AEGIS missiles require hardware and software changes to be compatible with the new (non-AEGIS) DDG 1000 radar, combat system, X-band link and interrupted continuous wave illumination.

SM-2 BLK IIIC: On 3 November 2017, SM-2 BLK IIIC was designated an accelerated acquisition Maritime Accelerated Capabilities Office (MACO) program by the CNO and ASN(RDA), enabling procurement of a SM-2 medium range active capability beginning in 2020. SM-2 BLK IIIC provides enhanced Stream-Raid performance against numerous threats to include agile prism via target resolution in range and Doppler and missile/target pairing logic, over-the-horizon capability for increased depth of fire, enhanced capability against electronic attack, improved firepower due to decreased dependence on illuminators, and enhanced fuzing via guidance integrated fuzing. Effort leverages to the maximum extent existing SM-2 inventory and common technology to provide an affordable mix of complimentary weapons to meet a broad range of mission requirements. The inventory objective is 1,000 units.

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy								Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 02: Other Missiles / BSA 3: Modification of Missiles						P-1 Line Item Number / Title: 2356 / Standard Missiles Mods				
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A			Other Related Program Elements: N/A				
Line Item MDAP/MAIS Code: N/A										
Exhibits Schedule					Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	1 / Standard Missiles Mods	P-5a, P-21			- / 0.000	- / 8.164	- / 11.729	- / 0.000	- / 0.000	- / 0.000
P-40	Total Gross/Weapon System Cost				- / 0.000	- / 8.164	- / 11.729	- / 0.000	- / 0.000	- / 0.000
*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.										
Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.										

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Exhibit P-5, Cost Analysis: PB 2019 Navy												Date: February 2018						
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 3						P-1 Line Item Number / Title: 2356 / Standard Missiles Mods						Item Number / Title [DODIC]: 1 / Standard Missiles Mods						
ID Code (A=Service Ready, B=Not Service Ready) :									MDAP/MAIS Code:									
Resource Summary				Prior Years		FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total				
Procurement Quantity (Units in Each)				-		-		-		-		-		-				
Gross/Weapon System Cost (\$ in Millions)				0.000		8.164		11.729		0.000		0.000		0.000				
Less PY Advance Procurement (\$ in Millions)				-		-		-		-		-		-				
Net Procurement (P-1) (\$ in Millions)				0.000		8.164		11.729		0.000		0.000		0.000				
Plus CY Advance Procurement (\$ in Millions)				-		-		-		-		-		-				
Total Obligation Authority (\$ in Millions)				0.000		8.164		11.729		0.000		0.000		0.000				
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)																		
Initial Spares (\$ in Millions)				-		-		-		-		-		-				
Gross/Weapon System Unit Cost (\$ in Dollars)				-		-		-		-		-		-				
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
Hardware - HARDWARE Cost																		
Recurring Cost																		
1.1.3) FK007 SM-2 BLK IIIA Z MODIFICATION ^(†) (1)	-	-	-	627,200.00	10	6.272	334,766.67	30	10.043	-	-	-	-	-	-	-	-	-
Subtotal: Recurring Cost	-	-	-	-	-	6.272	-	-	10.043	-	-	-	-	-	-	-	-	-
Subtotal: Hardware - HARDWARE Cost	-	-	-	-	-	6.272	-	-	10.043	-	-	-	-	-	-	-	-	-
Hardware - PRODUCTION Cost																		
Non Recurring Cost																		
2.1.1) FK830 SM-2 PRODUCTION ENGINEERING/ SUPPORT	-	-	-	-	-	0.927	-	-	0.977	-	-	-	-	-	-	-	-	-
2.1.3) FK950 SM-2 TOOLS AND TEST EQUIPMENT	-	-	-	-	-	0.965	-	-	0.709	-	-	-	-	-	-	-	-	-
Subtotal: Non Recurring Cost	-	-	-	-	-	1.892	-	-	1.686	-	-	-	-	-	-	-	-	-
Subtotal: Hardware - PRODUCTION Cost	-	-	-	-	-	1.892	-	-	1.686	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost	-	-	0.000	-	-	8.164	-	-	11.729	-	-	0.000	-	-	0.000	-	-	0.000
(†) indicates the presence of a P-5a																		

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Exhibit P-5, Cost Analysis: PB 2019 Navy		Date: February 2018
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 3	P-1 Line Item Number / Title: 2356 / Standard Missiles Mods	Item Number / Title [DODIC]: 1 / Standard Missiles Mods
ID Code (A=Service Ready, B=Not Service Ready) :		MDAP/MAIS Code:
<p>Footnotes:</p> <p>⁽¹⁾ The actual Unit Price (U/P) for FY 2018 SM-2 IIIAZ modification kits is \$529.5K. The negotiated U/P was for all FY 2018-2020 SM-2 IIIAZ modification kits (33 kits) vice the 11 kits in FY 2018 reflected in previous budget documents and was lower than budgeted. Funding above the FY 2018 request for the additional kits was realized from a combination of FY 2017 negotiated savings (\$2.4M) and utilization of contractual consideration received from FMS customers (\$5M). Taken together, the FY 2017 negotiation and the GFE consideration provided approximately \$7.4M in funding enabling the US Navy to procure the entire out-year buy of SM-2 IIIAZ modification kits.</p>		

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Exhibit P-5a, Procurement History and Planning: PB 2019 Navy								Date: February 2018				
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 3				P-1 Line Item Number / Title: 2356 / Standard Missiles Mods				Item Number / Title [DODIC]: 1 / Standard Missiles Mods				

Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty <i>(Each)</i>	Unit Cost <i>(\$)</i>	Specs Avail Now?	Date Revision Available	RFP Issue Date
1.1.3) FK007 SM-2 BLK IIIAZ MODIFICATION ^(†)		2017	Raytheon CO / Tucson AZ	SS / FPIF	NAVSEA	Jun 2017	Jun 2019	10	627,200.00	Y		
1.1.3) FK007 SM-2 BLK IIIAZ MODIFICATION ^(†)		2018	Raytheon CO / Tucson AZ	SS / FPIF	NAVSEA	Mar 2018	Mar 2020	30	334,766.67	Y		

^(†) indicates the presence of a P-21

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Exhibit P-21, Production Schedule: PB 2019 Navy																			Date: February 2018																										
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 3							P-1 Line Item Number / Title: 2356 / Standard Missiles Mods												Item Number / Title [DODIC]: 1 / Standard Missiles Mods																										
Cost Elements (Units in Each)							Fiscal Year 2017												Fiscal Year 2018													BALANCE													
OCO	MFR#	FY	SERVICE	PROCQTY	ACCEPT PRIOR TO 1 OCT 2016	BAL DUE AS OF 1 OCT	Calendar Year 2017												Calendar Year 2018																										
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP															
1.1.3) FK007 SM-2 BLK IIIAZ MODIFICATION ⁽¹⁾																																													
	1	2017	NAVY	10	0	10													A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10									
	1	2018	NAVY	30	0	30																										A -	-	-	-	-	-	-	-	-	-	-	-	-	30
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP															

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Exhibit P-21, Production Schedule: PB 2019 Navy																				Date: February 2018														
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 3							P-1 Line Item Number / Title: 2356 / Standard Missiles Mods													Item Number / Title [DODIC]: 1 / Standard Missiles Mods														
Cost Elements (Units in Each)							Fiscal Year 2019													Fiscal Year 2020													BALANCE	
OCO#	MFR#	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2018	BAL DUE AS OF 1 OCT	Calendar Year 2019													Calendar Year 2020														
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP				
1.1.3) FK007 SM-2 BLK IIIAZ MODIFICATION ⁽¹⁾																																		
	1	2017	NAVY	10	0	10	-	-	-	-	-	-	-	-	2	2	2	2	2															0
	1	2018	NAVY	30	0	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	5	5	5	5	5		0					
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP				

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Exhibit P-21, Production Schedule: PB 2019 Navy									Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 3					P-1 Line Item Number / Title: 2356 / Standard Missiles Mods				Item Number / Title [DODIC]: 1 / Standard Missiles Mods			
MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Year)			Procurement Leadtime (Months)							
		MSR For 2019	1-8-5 For 2019	MAX For 2019	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	Raytheon CO - Tucson AZ	7	50	75	3	3	24	27	3	3	24	27

"A" in the Delivery Schedule indicates the Contract Award Date.

Note: Due to space limitations, quantities in the Exhibit P-21 delivery calendar are truncated and rounded based on the maximum quantity in the calendar as follows. If the maximum quantity is less than or equal to than 9,999, all quantities are shown as each. If the maximum quantity is between 10,000 and 999,999 all quantities are shown in thousands. If the maximum quantity is between 1,000,000 and 999,999,999 all quantities are shown in millions (rounded to the nearest thousand).If the maximum quantity is equal or greater than 1,000,000,000 all quantities are shown in billions (rounded to the nearest million).

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy **Date:** February 2018

Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 02: Other Missiles / BSA 4: Support Equipment & Facilities	P-1 Line Item Number / Title: 2420 / Weapons Industrial Facilities
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ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	333.654	1.964	4.021	2.006	0.000	2.006	1.997	2.036	2.078	2.123	-	349.879
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	333.654	1.964	4.021	2.006	0.000	2.006	1.997	2.036	2.078	2.123	-	349.879
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	333.654	1.964	4.021	2.006	0.000	2.006	1.997	2.036	2.078	2.123	-	349.879

(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)

Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

This budget provides funding to close, deactivate, prepare, and convey the Government-Owned Contractor Operated (GOCO), Naval Weapons Industrial Reserve Plant (NWIRP) in Bedford, MA. This budget also provides funding which supports capital-type rehabilitation projects in the areas of environmental, safety, major repair, and energy conservation at the active Naval Industrial Reserve Ordnance Plant (NIROP), Allegany Ballistics Laboratory (ABL), and inactive NWIRP. Capital-type rehabilitation projects at the GOCO plant, NIROP ABL in Rocket Center, WV, supports weapons systems such as LRLAP, RAM, ESSM, AIM-9X, AIM-9M, FMU-139 Fuze, Hellfire, GMLRS, AMRAAM, Tomahawk GG and Trident GG.

[P5 / FU002 Capital Type Rehabilitation]: This program funds projects that eliminate environmental deficiencies to comply with local, state, and federal OSHA regulations. These regulations mandate requirements, which must be met if plant shutdowns in order to avoid criminal liability, and severe financial penalties. Projects to eliminate safety deficiencies in compliance with local, state, and federal OSHA regulations are also funded by this program. These regulations mandate requirements, which must be met if plant shut-downs in order to avoid severe financial penalties. The program also includes critical upgrades to maintain high liability areas such as fire and security systems, roofs, boilers, electrical distribution systems, bridge crane systems, and other structural repairs essential to maintain the industrial integrity of the plant. This line also supports projects that decrease energy consumption by installing new energy efficient systems and provides increased maintenance on these systems. Mandated in 1993 by Congress (Defense Appropriations Committee).

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy								Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 02: Other Missiles / BSA 4: Support Equipment & Facilities						P-1 Line Item Number / Title: 2420 / Weapons Industrial Facilities				
ID Code (A=Service Ready, B=Not Service Ready): A				Program Elements for Code B Items: N/A			Other Related Program Elements: N/A			
Line Item MDAP/MAIS Code: N/A										
Exhibits Schedule					Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	1 / Weapons Industrial Facilities				- / 333.654	- / 1.964	- / 4.021	- / 2.006	- / 0.000	- / 2.006
P-40	Total Gross/Weapon System Cost				- / 333.654	- / 1.964	- / 4.021	- / 2.006	- / 0.000	- / 2.006
<p>*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.</p> <p>Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.</p>										
<p>Justification:</p> <p>Funding is required to address critical infrastructure issues. The plants have an average age of 45 years and lack of proper maintenance will limit capabilities to maintain scheduled production rates and overall productivity.</p> <p>Funding for FY 2019 will support Power Distribution Substation Upgrades, an Explosive Storage Magazine, and Reactive Waste Staging Facility upgrades and improvements at NIROP ABL.</p> <p>Federal Acquisition Regulation Part 52.245-7 specifies that facilities use contracts require that the government fund capital type rehabilitation projects to support and maintain these facilities. Funding is separated to reflect environmental, safety, major repair, energy conservation, and facilities restoration.</p> <p>The FY 2019 funding request was reduced by \$0.041 million to reflect the Department of Navy's effort to support the Office of Management and Budget directed reforms for Efficiency and Effectiveness that include a lean, accountable, more efficient government.</p>										

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Exhibit P-5, Cost Analysis: PB 2019 Navy												Date: February 2018						
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 4						P-1 Line Item Number / Title: 2420 / Weapons Industrial Facilities						Item Number / Title [DODIC]: 1 / Weapons Industrial Facilities						
ID Code (A=Service Ready, B=Not Service Ready) :									MDAP/MAIS Code:									
Resource Summary				Prior Years		FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total				
Procurement Quantity (Units in Each)				-		-		-		-		-		-				
Gross/Weapon System Cost (\$ in Millions)				333.654		1.964		4.021		2.006		0.000		2.006				
Less PY Advance Procurement (\$ in Millions)				-		-		-		-		-		-				
Net Procurement (P-1) (\$ in Millions)				333.654		1.964		4.021		2.006		0.000		2.006				
Plus CY Advance Procurement (\$ in Millions)				-		-		-		-		-		-				
Total Obligation Authority (\$ in Millions)				333.654		1.964		4.021		2.006		0.000		2.006				
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)																		
Initial Spares (\$ in Millions)				-		-		-		-		-		-				
Gross/Weapon System Unit Cost (\$ in Dollars)				-		-		-		-		-		-				
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
Support Cost																		
1.1) FU002 Capital Type Rehabilitation	-	-	21.509	-	-	1.964	-	-	4.021	-	-	2.006	-	-	-	-	-	2.006
Subtotal: Support Cost	-	-	21.509	-	-	1.964	-	-	4.021	-	-	2.006	-	-	-	-	-	2.006
Support - Facilities Restoration Cost																		
2.1) FUCA1 Facilities Restoration (ABL)	-	-	216.205	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Support - Facilities Restoration Cost	-	-	216.205	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Support - Government-Owned Contractor Operated (GOCO) Fac Cost																		
3.1) FU020 NWIRP MCGREGOR	-	-	95.940	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Support - Government-Owned Contractor Operated (GOCO) Fac Cost	-	-	95.940	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost	-	-	333.654	-	-	1.964	-	-	4.021	-	-	2.006	-	-	0.000	-	-	2.006

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy										Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 02: Other Missiles / BSA 4: Support Equipment & Facilities							P-1 Line Item Number / Title: 2433 / Fleet Satellite Comm Follow-On					
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A				Other Related Program Elements: 0303109N, 1203109N					
Line Item MDAP/MAIS Code: 345												
Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	2,067.026	33.723	46.357	66.779	0.000	66.779	67.380	53.460	45.985	46.907	617.197	3,044.814
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	2,067.026	33.723	46.357	66.779	0.000	66.779	67.380	53.460	45.985	46.907	617.197	3,044.814
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	2,067.026	33.723	46.357	66.779	0.000	66.779	67.380	53.460	45.985	46.907	617.197	3,044.814
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Thousands</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Thousands</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

The Mobile User Objective System (MUOS) provides a worldwide, multi-service population of mobile and fixed-site terminal users with ultra-high frequency (UHF), narrowband, beyond line of sight satellite communications (SATCOM).

MUOS significantly increases performance and capacity in support of critical Combatant Command SATCOM priorities. MUOS is the replacement system for the UHF Follow-on (UFO) system, which is currently beyond its design life. MUOS consists of Space, Ground, and User Entry Segments. The Space Segment consists of 5 geosynchronous satellites, one which is an on-orbit spare, and provides both a legacy UHF payload, which is backward compatible with UFO, and a Wideband Code Division Multiple Access (WCDMA) payload, which provides 3G cellular-like capability. The Ground Segment or System consists of four world-wide radio access facilities (RAFTs) and two satellite control facilities. Each RAFT includes three 60 ft. antennas, and over 50 equipment racks which house a total of 5,000 major hardware components and 250 software applications across the MUOS Program. The RAFT in Hawaii includes a Network Management Facility (NMF). The RAFTs in Hawaii and Virginia each include a Switching Facility (SF). The User Entry Segment consists of the MUOS waveform that is ultimately integrated into MUOS-capable terminals. The MUOS legacy capability has been in operational use since 2012, and the WCDMA capability transitioned to Early Combatant Command Use in July 2016.

In addition to providing UHF SATCOM for the Department of Defense (DoD), the Navy has the overall responsibility to deliver the end-to-end (E2E) MUOS capability to the warfighter. This responsibility involves systems engineering, integration, and test management of all MUOS system of system activities, to include the integration of the MUOS waveform into MUOS-capable terminals and the subsequent terminal certification testing.

In June 2016 based on the results of the Multi-Service Operational Test and Evaluation-2 (MOT&E-2), Director, Operational Test & Evaluation (DOT&E) assessed MUOS not operationally effective or suitable. As a result the program is addressing the findings and preparing for MOT&E-2B in FY19 and Full Operational Capability (FOC) has been moved to FY20. Beginning in FY17, the program's focus has been updating all four radio access facilities and two satellite control facilities to address cybersecurity requirements, tech refresh of obsolescent hardware and software, and operational deficiencies.

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy								Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 02: Other Missiles / BSA 4: Support Equipment & Facilities						P-1 Line Item Number / Title: 2433 / Fleet Satellite Comm Follow-On				
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A			Other Related Program Elements: 0303109N, 1203109N				
Line Item MDAP/MAIS Code: 345										
Exhibits Schedule					Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	1 / Fleet Satellite Comm Follow-On				- / 2,067.026	- / 33.723	- / 46.357	- / 66.779	- / 0.000	- / 66.779
P-40	Total Gross/Weapon System Cost				- / 2,067.026	- / 33.723	- / 46.357	- / 66.779	- / 0.000	- / 66.779
*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.										
Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.										
<p>Justification:</p> <p>The FY19 budget is based on the scope of work required to update the MUOS Ground System in preparation for Operational Test in FY19 and Full Operational Capability in FY20. Program funding increased from FY18 to FY19 as a result of MUOS Ground System obsolescence and associated cybersecurity vulnerabilities which impact the ability to obtain accreditation, transition to operations, and reliability and availability of the MUOS system. The Ground System completed fielding in 2012, and currently 46% of the hardware (HW) and 96% of the software (SW) is obsolete. Emerging cybersecurity threats and increasing cybersecurity requirements have resulted in over 700 category I/II cybersecurity vulnerabilities, of which 12% are directly attributable to obsolescence. Resolution of the category I cybersecurity vulnerabilities is required by USSTRATCOM to fully transition the system to operations.</p> <p>Ground System updates in FY19, which are critical to transitioning to operations, include hardware and software procurements and correction of HW/SW issues resulting from MOT&E findings, trouble tickets, and/or problem change requests. FY19 funds 5 Enterprise Agile Ground System releases and 3 minor releases deployed to each of the Ground sites, and includes associated engineering, integration, test and delivery efforts to address obsolescence, cybersecurity vulnerabilities, and ensure readiness levels support the warfighter narrowband SATCOM requirements.</p> <p>FY19 continues procurement of the following equipment items in order to address obsolescence:</p> <p>Earth Terminal Interface Signal Processor (ETISP) - The three ETISPs per RAF are beyond the end of support, have high failure rates and long down times due to difficulty in troubleshooting, and are high risk to Wideband Code Division Multiple Access (WCDMA) availability. This effort also provides technology refresh that increases capability to address electromagnetic interference issues with MUOS communications.</p> <p>MUOS TRANSEC Controller (MTC) - The two MTCs per RAF are beyond end of support, have a failure rate that is expected to consume all spares by end of FY 19, and are high risk to satellite command and control operational availability.</p> <p>Anti-Jam Modem (AJM) - The two AJMs per RAF are beyond end of life, approaching end of support, and have a failure rate expected to consume all spares by end of FY 19. These are high risk to satellite command and control operational availability.</p> <p>Defense Switch Network Gateway (DSNG) - The DSN Gateway in each Switch Facility is beyond end of support, and does not support the Internet Protocol Defense Switch Network (DSN) interface that DISA has transitioned to. This results in DISA continuing to support legacy protocol for MUOS and four other programs. This increases risk to providing DSN MUOS voice capability via DISA Teleport and DSN services.</p> <p>Information Assurance Components - Network Intrusion Devices, and Ground System back-up/restoral devices are beyond end of support. This obsolescence effort addresses cybersecurity requirements.</p> <p>FY19 funds initial procurement efforts for the following equipment items in order to address obsolescence:</p> <p>High Assurance Internet Protocol Encryptor (HAIZE) - The KG-175A's at each ground site are beyond end of support, and require a waiver from DISA for use. The KG 175D's at each ground site are beyond end of life, are approaching end of support and have a high failure rate. These are high risk to satellite command and control operational availability as well as MUOS communications operational availability.</p>										

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy		Date: February 2018
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 02: Other Missiles / BSA 4: Support Equipment & Facilities		P-1 Line Item Number / Title: 2433 / Fleet Satellite Comm Follow-On
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0303109N, 1203109N
Line Item MDAP/MAIS Code: 345		
<p>Windows Obsolescence - The MUOS Ground system has approximately 300 instances of Windows versions pre-Windows 10. This effort also includes updating the hardware platforms and associated applications when necessary to work with the Windows OS replacement. These are high risk to cybersecurity.</p> <p>The FY 2019 funding request was reduced by \$0.633 million to reflect the Department of Navy's effort to support the Office of Management and Budget directed reforms for Efficiency and Effectiveness that include a lean, accountable, more efficient government.</p>		

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Exhibit P-5, Cost Analysis: PB 2019 Navy												Date: February 2018						
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 4						P-1 Line Item Number / Title: 2433 / Fleet Satellite Comm Follow-On						Item Number / Title [DODIC]: 1 / Fleet Satellite Comm Follow-On						
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:								
Resource Summary				Prior Years		FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total				
Procurement Quantity <i>(Units in Each)</i>				-		-		-		-		-		-				
Gross/Weapon System Cost <i>(\$ in Millions)</i>				2,067.026		33.723		46.357		66.779		0.000		66.779				
Less PY Advance Procurement <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Net Procurement (P-1) <i>(\$ in Millions)</i>				2,067.026		33.723		46.357		66.779		0.000		66.779				
Plus CY Advance Procurement <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Total Obligation Authority <i>(\$ in Millions)</i>				2,067.026		33.723		46.357		66.779		0.000		66.779				
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)																		
Initial Spares <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Gross/Weapon System Unit Cost <i>(\$ in Thousands)</i>				-		-		-		-		-		-				
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Flyaway Cost																		
Recurring Cost																		
1.1.1) Ground System Updates ⁽¹⁾	-	-	130.837	-	-	33.723	-	-	46.357	-	-	66.779	-	-	-	-	-	66.779
Subtotal: Recurring Cost	-	-	130.837	-	-	33.723	-	-	46.357	-	-	66.779	-	-	-	-	-	66.779
Non Recurring Cost																		
1.2.1) Advance Procurement Prior Years (FY2001-2010)	-	-	118.858	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.2.2) Satellite Procurement (MUOS)	300,796.667	3	902.390	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Non Recurring Cost	-	-	1,021.248	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Flyaway Cost	-	-	1,152.085	-	-	33.723	-	-	46.357	-	-	66.779	-	-	-	-	-	66.779
Hardware Cost																		
Non Recurring Cost																		
2.1.1) EELV Launch Vehicles (MUOS)	147,092.800	5	735.464	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Non Recurring Cost	-	-	735.464	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Hardware Cost	-	-	735.464	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Support Cost																		
3.1) EELV Launch Vehicle Production	-	-	37.345	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Exhibit P-5, Cost Analysis: PB 2019 Navy													Date: February 2018					
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 4						P-1 Line Item Number / Title: 2433 / Fleet Satellite Comm Follow-On							Item Number / Title [DODIC]: 1 / Fleet Satellite Comm Follow-On					
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:								
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
	3.2) Satellite Production	-	-	142.132	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Subtotal: Support Cost	-	-	179.477	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost	-	-	2,067.026	-	-	33.723	-	-	46.357	-	-	66.779	-	-	0.000	-	-	66.779

Footnotes:
⁽¹⁾ The Ground System Updates line includes equipment for the entire MUOS Ground system, which includes 4 Remote Access Facilities (or Ground Stations) and 2 Satellite Control Facilities.

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy										Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 02: Other Missiles / BSA 5: Ordnance Support Equipment							P-1 Line Item Number / Title: 2500 / Ordnance Support Equipment					
ID Code (A=Service Ready, B=Not Service Ready): A				Program Elements for Code B Items: N/A				Other Related Program Elements: N/A				
Line Item MDAP/MAIS Code: N/A												
Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	355.998	59.096	47.159	62.008	0.000	62.008	119.592	236.839	202.197	220.585	Continuing	Continuing
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	355.998	59.096	47.159	62.008	0.000	62.008	119.592	236.839	202.197	220.585	Continuing	Continuing
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	355.998	59.096	47.159	62.008	0.000	62.008	119.592	236.839	202.197	220.585	Continuing	Continuing
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Description: Additional details with respect to this line item are held at a higher classification. This line item is reported in accordance with Title 10, United States Code, Section 119(a)(1) in the Special Access Program Annual Report to Congress.												

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy								Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 02: Other Missiles / BSA 5: Ordnance Support Equipment						P-1 Line Item Number / Title: 2500 / Ordnance Support Equipment				
ID Code (A=Service Ready, B=Not Service Ready): A				Program Elements for Code B Items: N/A			Other Related Program Elements: N/A			
Line Item MDAP/MAIS Code: N/A										
Exhibits Schedule					Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-40a	Ordnance Support Equipment				- / 355.998	- / 59.096	- / 47.159	- / 62.008	- / -	- / 62.008
P-40	Total Gross/Weapon System Cost				- / 355.998	- / 59.096	- / 47.159	- / 62.008	- / 0.000	- / 62.008
<small>*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications. Title represents the P-40a Title when only the P-40a Summary/Total is shown.</small>										
<small>Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.</small>										

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2019 Navy															Date: February 2018				
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 5								P-1 Line Item Number / Title: 2500 / Ordnance Support Equipment							Aggregated Items Title: Ordnance Support Equipment ⁽¹⁾				

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
			Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
1) Ordnance Support Equipment																				
1) Classified	A		-	-	355.998	-	-	59.096	-	-	47.159	-	-	62.008	-	-	-	-	-	62.008
Subtotal: 1) Ordnance Support Equipment			-	-	355.998	-	-	59.096	-	-	47.159	-	-	62.008	-	-	-	-	-	62.008
Total			-	-	355.998	-	-	59.096	-	-	47.159	-	-	62.008	-	-	-	-	-	62.008

Note: Subtotals or Totals in this Exhibit P-40a may not be exact or sum exactly, due to rounding.

Footnotes:

⁽¹⁾ Additional details with respect to this line item are held at a higher classification. This line item is reported in accordance with Title 10, United States Code, Section 119(a)(1) in the Special Access Program Annual Report to Congress.

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy										Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 03: Torpedoes and Related Equipment / BSA 1: Torpedoes and Related Equip							P-1 Line Item Number / Title: 3113 / Surface Ship Torpedo Def (SSTD)					
ID Code (A=Service Ready, B=Not Service Ready): B				Program Elements for Code B Items: N/A				Other Related Program Elements: 0603506N, 0204228N				
Line Item MDAP/MAIS Code: N/A												
Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	28.855	5.910	5.240	6.353	0.000	6.353	5.712	5.766	5.673	5.550	Continuing	Continuing
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	28.855	5.910	5.240	6.353	0.000	6.353	5.712	5.766	5.673	5.550	Continuing	Continuing
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	28.855	5.910	5.240	6.353	0.000	6.353	5.712	5.766	5.673	5.550	Continuing	Continuing
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
<p>Description:</p> <p>The FY 2019 funding request was reduced by \$0.017 million to reflect the Department of Navy's effort to support the Office of Management and Budget directed reforms for Efficiency and Effectiveness that include a lean, accountable, more efficient government.</p> <p>The Surface Ship Torpedo Defense (SSTD) provides a layered torpedo defense capability to protect surface ships. The SSTD WPN account procures surface ship Acoustic Device Countermeasures (ADCs). The ADC is a 3-inch expendable torpedo countermeasure (CM) that provides an over-the-side soft-kill defense against threat torpedoes. WPN funding provides new devices for fleet inventory requirements as identified in Naval Munitions Requirements Process (NMRP) necessary to equip identified surface ships and to replace expiring devices. The funding will also procure and install ready service and deep storage lockers to provide adequate storage on surface ships with countermeasure allowance.</p> <p>TD010 - ADC HARDWARE: Procures the surface ship Acoustic Device Countermeasures (ADC). Quantity requirements determined by NMRP and shelf life of older units (reaching end of life). These requirements vary by ship type, location, and campaign.</p> <p>TD020 - ADC READY STOWAGE LOCKER: Procure and install ready service and deep storage lockers to hold ADCs on surface ships.</p> <p>TD830 - PRODUCTION ENGINEERING - In House: Funding provides specification preparation and validation, government prepared production acceptance procedures, production planning, Integrated Logistics Support (ILS) planning, coordination of government furnished information (GFI) and government furnished equipment (GFE), contract deliverable monitoring and prime contractor monitoring of cost/schedule performance. Also provides inservice engineering agent (ISEA) and technical direction agent (TDA) support for ADCs on surface ships.</p> <p>TD900 - CONSULTING SERVICES: Funding under this cost code provides fair share of contractor support to the program office, including program, financial, acquisition, contract, administration and engineering management support.</p> <p>TD905 - PRODUCTION ENGINEERING CONTRACTOR: Funding under this cost code provides for production engineering tasks performed by the hardware contractor.</p>												

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy								Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 03: Torpedoes and Related Equipment / BSA 1: Torpedoes and Related Equip						P-1 Line Item Number / Title: 3113 / Surface Ship Torpedo Def (SSTD)				
ID Code (A=Service Ready, B=Not Service Ready): B			Program Elements for Code B Items: N/A			Other Related Program Elements: 0603506N, 0204228N				
Line Item MDAP/MAIS Code: N/A										
Exhibits Schedule					Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	1 / Surface Ship Torpedo Def (SSTD)	P-5a			- / 28.855	- / 5.910	- / 5.240	- / 6.353	- / 0.000	- / 6.353
P-40	Total Gross/Weapon System Cost				- / 28.855	- / 5.910	- / 5.240	- / 6.353	- / 0.000	- / 6.353
<small>*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.</small>										
<small>Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.</small>										

Justification:

The FY 2019 funding procures the surface ship Acoustic Device Countermeasures (ADC) and ready stowage lockers. The funding increase from FY 2018 to FY 2019 procures additional ready stowage lockers to meet the Fleet procurement and installation plans for multiple ship classes.

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Exhibit P-5, Cost Analysis: PB 2019 Navy												Date: February 2018						
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 03 / 1						P-1 Line Item Number / Title: 3113 / Surface Ship Torpedo Def (SSTD)						Item Number / Title [DODIC]: 1 / Surface Ship Torpedo Def (SSTD)						
ID Code (A=Service Ready, B=Not Service Ready) :									MDAP/MAIS Code:									
Resource Summary				Prior Years		FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total				
Procurement Quantity <i>(Units in Each)</i>				-		-		-		-		-		-				
Gross/Weapon System Cost <i>(\$ in Millions)</i>				28.855		5.910		5.240		6.353		0.000		6.353				
Less PY Advance Procurement <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Net Procurement (P-1) <i>(\$ in Millions)</i>				28.855		5.910		5.240		6.353		0.000		6.353				
Plus CY Advance Procurement <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Total Obligation Authority <i>(\$ in Millions)</i>				28.855		5.910		5.240		6.353		0.000		6.353				
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)																		
Initial Spares <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Gross/Weapon System Unit Cost <i>(\$ in Dollars)</i>				-		-		-		-		-		-				
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
Hardware Cost																		
Recurring Cost																		
1.1.1) TD010 ADC ^(†) (1)	8,640.14	2,626	22.689	5,689.02	701	3.988	5,676.72	696	3.951	5,835.02	691	4.032	-	-	-	5,835.02	691	4.032
1.1.2) TD020 Ready Stowage Locker ^(†)	-	-	-	-	-	-	130,000.00	6	0.780	142,785.71	14	1.999	-	-	-	142,785.71	14	1.999
Subtotal: Recurring Cost	-	-	22.689	-	-	3.988	-	-	4.731	-	-	6.031	-	-	-	-	-	6.031
Non Recurring Cost																		
1.2.1) TD010 ADC Non Recurring Costs (2)	-	-	1.800	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.2.2) TD020 Ready Stow Lockers ⁽³⁾	-	-	0.700	-	-	0.500	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Non Recurring Cost	-	-	2.500	-	-	0.500	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Hardware Cost	-	-	25.189	-	-	4.488	-	-	4.731	-	-	6.031	-	-	-	-	-	6.031
Support Cost																		
2.1) TD830 PRODUCTION ENGINEERING IN- HOUSE	-	-	3.020	-	-	0.871	-	-	0.250	-	-	0.159	-	-	-	-	-	0.159
2.2) TD905 PRODUCTION ENG-- CONTRACTOR	-	-	0.346	-	-	0.275	-	-	-	-	-	-	-	-	-	-	-	-

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Exhibit P-5, Cost Analysis: PB 2019 Navy													Date: February 2018					
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 03 / 1						P-1 Line Item Number / Title: 3113 / Surface Ship Torpedo Def (SSTD)							Item Number / Title [DODIC]: 1 / Surface Ship Torpedo Def (SSTD)					
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:								
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
2.3) TD900 CONSULTING SERVICES	-	-	0.300	-	-	0.276	-	-	0.259	-	-	0.163	-	-	-	-	-	0.163
Subtotal: Support Cost	-	-	3.666	-	-	1.422	-	-	0.509	-	-	0.322	-	-	-	-	-	0.322
Gross/Weapon System Cost	-	-	28.855	-	-	5.910	-	-	5.240	-	-	6.353	-	-	0.000	-	-	6.353

(†) indicates the presence of a P-5a

Footnotes:

- (1) The quantity in FY 2021 reduced by half to budget \$2.2 million for Non-Recurring Engineering (NRE) on new production contract, planned to be awarded in FY 2021. NRE and First Article Testing (FAT) are necessary due to competitive award.
- (2) No NRE anticipated in FY 2019.
- (3) Ready stowage locker procurement ramps up to 14 in FY 2019 to meet the Fleet procurement and installation plan (multiple ship classes). FY 2021 quantities drop to 7 due to amount of NRE required on the new ADC contract.

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Exhibit P-5a, Procurement History and Planning: PB 2019 Navy								Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 03 / 1				P-1 Line Item Number / Title: 3113 / Surface Ship Torpedo Def (SSTD)				Item Number / Title [DODIC]: 1 / Surface Ship Torpedo Def (SSTD)			

Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$)	Specs Avail Now?	Date Revision Available	RFP Issue Date
1.1.1) TD010 ADC		2016 ⁽⁴⁾	ULTRA / Braintree, MA	C / FFP	WASH NAVY YARD	Jul 2016	Jul 2017	325	5,658.46	Y		
1.1.1) TD010 ADC		2017	ULTRA / Braintree, MA	C / FFP	WASH NAVY YARD	May 2017	Nov 2017	701	5,689.02	Y		
1.1.1) TD010 ADC		2018	ULTRA / Braintree, MA	C / FFP	WASH NAVY YARD	May 2018	Nov 2018	696	5,676.72	Y		
1.1.1) TD010 ADC		2019	TBD / TBD	C / TBD	WASH NAVY YARD	May 2019	May 2020	691	5,835.02	Y		
1.1.2) TD020 Ready Stowage Locker		2018	Delphinus / Norfolk, VA	C / CPIF	NSWC Philadelphia	May 2018	May 2019	6	130,000.00	Y	Mar 2018	
1.1.2) TD020 Ready Stowage Locker		2019	Delphinus / Norfolk, VA	C / CPIF	NSWC Philadelphia	May 2019	May 2020	14	142,785.71	Y	Mar 2019	

Footnotes:

⁽⁴⁾ Contract Awarded 13 July 2016

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy								Date: February 2018				
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 03: Torpedoes and Related Equipment / BSA 1: Torpedoes and Related Equip							P-1 Line Item Number / Title: 3117 / MK-48 Torpedo					
ID Code (A=Service Ready, B=Not Service Ready): B				Program Elements for Code B Items: N/A					Other Related Program Elements: N/A			
Line Item MDAP/MAIS Code: N/A												
Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	8	18	17	45	-	45	58	71	75	76	Continuing	Continuing
Gross/Weapon System Cost (<i>\$ in Millions</i>)	62.591	43.037	44.771	92.616	0.000	92.616	114.436	218.661	186.660	199.409	Continuing	Continuing
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	62.591	43.037	44.771	92.616	0.000	92.616	114.436	218.661	186.660	199.409	Continuing	Continuing
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	62.591	43.037	44.771	92.616	0.000	92.616	114.436	218.661	186.660	199.409	Continuing	Continuing
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)												
Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	7,824K	2,391K	2,634K	2,058K	-	2,058K	1,973K	3,080K	2,489K	2,624K	Continuing	Continuing
Description:												
The MK 48 Mod 7 Heavyweight Torpedo is the U.S. Navy's submarine launched Anti-Submarine Warfare (ASW) and primary Anti-Surface Warfare (ASuW) weapon. Procurements will increase warshot inventory available prior to Major Combat Operations. Heavyweight Torpedo provides the submarine force with an effective weapon against threat submarines and surface combatants to assist in achieving Sea Control and neutralizing or destroying threats to high value vessels. Torpedoes are the only proven weapon system that provides Navy control from sea bed to sea surface.												
[P5 / G5001 - MK48 MOD 7 Hardware]: Funding under this cost code supports the award and execution of two competitive contracts for procurement of the MK48 Mod 7 Torpedo Guidance and Control and Afterbody Tail Cone Sections, production test equipment upgrades, engineering change proposals, and non-recurring engineering to resolve production issues including obsolescence. Nonrecurring Engineering (NRE) funds base contract year technology refresh due to obsolescence issues. NRE funds production of Proof of Manufacturing (POM) units, first article testing, tooling, test equipment, procurement of technical data package updates, and start-up costs for production contractors. Engineering Services and Engineering Change Proposals (ECPs) pay for studies, plans, design changes, and implementation of design changes by the contractor(s), primarily due to obsolescence that occurs during the contract performance. Also included in this cost code, is the cost of government installation and integration of MK 48 Mod 7 Guidance and Control and Afterbody Tail Cone Torpedo Sections procured in prior years with War Reserve MK 48 Mod 4 MK 107 Warhead components and Fuel Tanks assembled into an all up round(AUR). Installation costs match procurement delivery timelines. Quality assurance check-out is completed with the test and integration of operational software prior to issue of the MK 48 Mod 7 Torpedo as Warshot or Exercise Torpedo. Diminishing Manufacturing Sources (DMS) cost funds are provided to address obsolescence issues in the Guidance and Control (G&C) and After Body/Tail Cone sections during the production cycle. The contractors will be required to procure and deliver DMS material for these obsolete components.												
[P5 / G5004 - Torpedo Other Procurement Investment]: Funding under this cost provides for additional Warhead electronics (new WES , Exploder, and Arming Device) and Fuel Tanks in FY 2021 to FY 2023 utilizing a new competitive MK48 Mod 7 G&C contract in order to replace the Warshot Fuel Tanks and Warhead Sections which were used by the MK48 Mod 7 Torpedo Program from FY 2016 to FY 2020 to assemble an All-Up-Round Torpedo.												
[P5 / G5003 - Support and Ancillary Equipment]: Funding under this cost code provides procurement and maintenance of support, technology refresh of test equipment at Naval Undersea Warfare Centers (NUWC) Keyport (KPT) and Newport (NPT), and the contractor facility for assembly, testing and integration.												
[P5 / G5830 - Production Engineering]: Funding under this cost code provides for production tasks performed by NUWC NPT and KPT and includes review of contractor generated Engineering Change Proposals (ECPs), review and resolution of contractor failures and proposed corrective action, configuration management activities, contractor monitoring, risk analysis, technical problem resolution, software engineering, safety, integrated logistics support, environmental engineering, information systems, test equipment, software maintenance and updates, and refurbishment of notable test equipment to provide to the contractors.												

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy		Date: February 2018
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 03: Torpedoes and Related Equipment / BSA 1: Torpedoes and Related Equip		P-1 Line Item Number / Title: 3117 / MK-48 Torpedo
ID Code (A=Service Ready, B=Not Service Ready): B	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: N/A		
<p>Funding maintains production specification in accordance with production processes, provides subject matter experts to support root cause analysis of failed contractor hardware, and monitors contractor defect and reduction processes to ensure deficiencies are effectively addressed. Funding is also provided for program office acquisition support.</p> <p>[P5 / G5840 - Quality Assurance]: Funding under this cost code provides for quality assurance (QA) tasks performed by NUWC Keyport (KPT) and Newport (NPT) including: QA review of the contractor and subcontractor data, review of documentation indicating conformity to product performance requirements, and review of objective quality evidence.</p> <p>[P5 / G5860 - Acceptance T&E]: Funding under this cost code provides for integration and production acceptance testing of prime contractor hardware sections in an MK 48 Mod 7 All Up Round (AUR) Torpedo.</p>		

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy								Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 03: Torpedoes and Related Equipment / BSA 1: Torpedoes and Related Equip						P-1 Line Item Number / Title: 3117 / MK-48 Torpedo				
ID Code (A=Service Ready, B=Not Service Ready): B			Program Elements for Code B Items: N/A			Other Related Program Elements: N/A				
Line Item MDAP/MAIS Code: N/A										
Exhibits Schedule					Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	1 / MK-48 Torpedo	P-5a, P-21			8 / 62.591	18 / 43.037	17 / 44.771	45 / 92.616	- / 0.000	45 / 92.616
P-40	Total Gross/Weapon System Cost				8 / 62.591	18 / 43.037	17 / 44.771	45 / 92.616	- / 0.000	45 / 92.616
<small>*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.</small>										
<small>Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.</small>										

Justification:
 G5001 MK48 MOD 7 Hardware:
 - Procurement quantity increases in FY 2019 to support the Navy's requirement for additional warshot torpedoes available for Pre-Combat loadout (Pre-CLO).
 - Engineering Services increases in FY 2019 are for the obsolescence redesign/technology refresh of the warhead electronics sensor (WES) design. The WES was designed in the 1980's and the current hardware and software design is not supportable or procurable requiring redesign, integration and test. The funding in FY 2019 procures WES proof of manufacturing units to allow for the extensive safety testing required for a change to the WES. Without redesign of the WES the Program will not have the WES section that is required in support of the FY 2021 procurements and the Navy will not be able to assemble All Up Round warshots. The inability to acquire redesigned WES will reduce procurements and available war reserve inventory in a conflict.

G5860 Acceptance T&E: Funding increase supports FY 2019 for Proof of Manufacturing (POM) unit acceptance and testing in support of production delivery of MK48 Afterbody Tailcone Sections.

Increase from FY 2018 to FY 2019 for support and ancillary equipment cost, production engineering cost and quality assurance cost in support of the increased production rate.

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Exhibit P-5, Cost Analysis: PB 2019 Navy													Date: February 2018								
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 03 / 1						P-1 Line Item Number / Title: 3117 / MK-48 Torpedo							Item Number / Title [DODIC]: 1 / MK-48 Torpedo								
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:											
Resource Summary				Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
Procurement Quantity <i>(Units in Each)</i>				8			18			17			45			-			45		
Gross/Weapon System Cost <i>(\$ in Millions)</i>				62.591			43.037			44.771			92.616			0.000			92.616		
Less PY Advance Procurement <i>(\$ in Millions)</i>				-			-			-			-			-			-		
Net Procurement (P-1) <i>(\$ in Millions)</i>				62.591			43.037			44.771			92.616			0.000			92.616		
Plus CY Advance Procurement <i>(\$ in Millions)</i>				-			-			-			-			-			-		
Total Obligation Authority <i>(\$ in Millions)</i>				62.591			43.037			44.771			92.616			0.000			92.616		
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)																					
Initial Spares <i>(\$ in Millions)</i>				-			-			-			-			-			-		
Gross/Weapon System Unit Cost <i>(\$ in Dollars)</i>				7,824K			2,391K			2,634K			2,058K			-			2,058K		
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																					
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total					
	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)			
Hardware - G5001 - MK48 MOD 7 Hardware Cost																					
Recurring Cost																					
1.1.1) Guidance & Control (G&C) Section ^(†) (1)	1,418K	8	11.347	600,930.00	18	10.817	670,626.00	17	11.401	587,955.56	45	26.458	-	-	-	587,955.56	45	26.458			
1.1.2) After Body/Tail Cone ^(†) (2)	933,250.00	8	7.466	856,853.00	18	15.423	816,797.00	17	13.886	835,355.56	45	37.591	-	-	-	835,355.56	45	37.591			
1.1.3) Contractor Engineering Services / ECPs ⁽³⁾	-	-	6.402	-	-	8.725	-	-	9.205	-	-	15.898	-	-	-	-	-	15.898			
1.1.5) Diminshing Manufacturing Sources	-	-	1.000	-	-	1.000	-	-	0.500	-	-	0.300	-	-	-	-	-	0.300			
Subtotal: Recurring Cost	-	-	26.215	-	-	35.965	-	-	34.992	-	-	80.247	-	-	-	-	-	80.247			
Non Recurring Cost																					
1.2.1) Non Recurring Engineering	-	-	31.645	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Subtotal: Non Recurring Cost	-	-	31.645	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Subtotal: Hardware - G5001 - MK48 MOD 7 Hardware Cost	-	-	57.860	-	-	35.965	-	-	34.992	-	-	80.247	-	-	-	-	-	80.247			
Support - G5003 - Support and Ancillary Equipment Cost																					
3.1) Support and Ancillary Equipment	-	-	1.370	-	-	1.223	-	-	1.247	-	-	1.570	-	-	-	-	-	1.570			

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Exhibit P-5, Cost Analysis: PB 2019 Navy													Date: February 2018					
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 03 / 1						P-1 Line Item Number / Title: 3117 / MK-48 Torpedo							Item Number / Title [DODIC]: 1 / MK-48 Torpedo					
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:								
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
Subtotal: Support - G5003 - Support and Ancillary Equipment Cost	-	-	1.370	-	-	1.223	-	-	1.247	-	-	1.570	-	-	-	-	-	1.570
Support - G5830 - Production Engineering Cost																		
4.1) Production Engineering (In-House & Ctr)	-	-	3.361	-	-	4.753	-	-	6.378	-	-	6.810	-	-	-	-	-	6.810
Subtotal: Support - G5830 - Production Engineering Cost	-	-	3.361	-	-	4.753	-	-	6.378	-	-	6.810	-	-	-	-	-	6.810
Support - G5840 - Quality Assurance Cost																		
5.1) Quality Assurance	-	-	-	-	-	1.096	-	-	1.118	-	-	1.995	-	-	-	-	-	1.995
Subtotal: Support - G5840 - Quality Assurance Cost	-	-	-	-	-	1.096	-	-	1.118	-	-	1.995	-	-	-	-	-	1.995
Support - G5860 - Acceptance T&E Cost																		
6.1) Acceptance T&E ⁽⁴⁾	-	-	-	-	-	-	-	-	1.036	-	-	1.994	-	-	-	-	-	1.994
Subtotal: Support - G5860 - Acceptance T&E Cost	-	-	-	-	-	-	-	-	1.036	-	-	1.994	-	-	-	-	-	1.994
Gross/Weapon System Cost	7,824K	8	62.591	2,391K	18	43.037	2,634K	17	44.771	2,058K	45	92.616	-	-	0.000	2,058K	45	92.616

(†) indicates the presence of a P-5a

Footnotes:

(1) G5001: FY 2019 funding increase for the procurement of 45 G&C Sections.

(2) G5001: FY 2019 funding increase for the procurement of 45 After Body/Tail Cones. Unit cost is the actual contractual unit prices at that QTY for the option year awarded.

(3) G5001: Engineering Services increases in FY 2019 are for the obsolescence redesign/technology refresh of the warhead electronics sensor (WES) design. The WES was designed in the 1980's and the current hardware and software design is not supportable or procurable requiring redesign, integration and test. The funding in FY 2019 procures WES proof of manufacturing units to allow for the extensive safety testing required for a change to the WES. Without redesign of the WES the Program will not have the WES section that is required in support of the FY 2021 procurements and the Navy will not be able to assemble All Up Round warshots. The inability to acquire redesigned WES will also reduce the ability of the Navy to have a war reserve eliminating the ability to convert exercise weapons to warshots during conflicts.

(4) G5860: Funding is required in FY 2019 for Proof of Manufacturing (POM) unit acceptance and testing in support of production delivery of MK48 Afterbody Tail Cone Sections.

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Exhibit P-5a, Procurement History and Planning: PB 2019 Navy									Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 03 / 1			P-1 Line Item Number / Title: 3117 / MK-48 Torpedo						Item Number / Title [DODIC]: 1 / MK-48 Torpedo			
Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$)	Specs Avail Now?	Date Revision Available	RFP Issue Date
1.1.1) Guidance & Control (G&C) Section ^(†)		2016	G&C Section LMS - FY16 ⁽⁵⁾ / Marion, MA	C / FFP	NAVSEA	May 2016	Oct 2019	8	1,418K	Y		May 2015
1.1.1) Guidance & Control (G&C) Section ^(†)		2017	G&C Section LMS - FY17 ⁽⁶⁾ / Marion, MA	C / FFP	NAVSEA	Jul 2017	May 2020	18	600,930.00	Y		
1.1.1) Guidance & Control (G&C) Section ^(†)		2018	G&C Section LMS - FY18 ⁽⁷⁾ / Marion, MA	C / FFP	NAVSEA	May 2018	Jul 2020	17	670,626.00	Y		
1.1.1) Guidance & Control (G&C) Section ^(†)		2019	G&C Section LMS - FY19 ⁽⁸⁾ / Marion, MA	C / FFP	NAVSEA	May 2019	Jan 2021	45	587,955.56	Y		
1.1.2) After Body/Tail Cone ^(†)		2016	Afterbody/Tail Cone Section SAIC - FY16 / Mclean, VA	C / FFP	NAVSEA	Sep 2016	Jun 2019	8	933,250.00	Y		Jul 2015
1.1.2) After Body/Tail Cone ^(†)		2017	Afterbody/Tail Cone Section SAIC - FY17 / Mclean, VA	C / FFP	NAVSEA	Sep 2017	Jan 2020	18	856,853.00	Y		
1.1.2) After Body/Tail Cone ^(†)		2018	Afterbody/Tail Cone Section SAIC - FY18 / Mclean, VA	C / FFP	NAVSEA	Jul 2018	Jun 2020	17	816,797.00	Y		
1.1.2) After Body/Tail Cone ^(†)		2019	Afterbody/Tail Cone Section SAIC - FY19 / Mclean, VA	C / FFP	NAVSEA	Jul 2019	Dec 2020	45	835,355.56	Y		
<p>^(†) indicates the presence of a P-21</p> <p>Footnotes:</p> <p>⁽⁵⁾ MSR and EOQ have not yet been determined by the contractor.</p> <p>⁽⁶⁾ MSR and EOQ have not yet been determined by the contractor.</p> <p>⁽⁷⁾ MSR and EOQ have not yet been determined by the contractor.</p> <p>⁽⁸⁾ MSR and EOQ have not yet been determined by the contractor.</p>												

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Exhibit P-21, Production Schedule: PB 2019 Navy																				Date: February 2018															
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 03 / 1										P-1 Line Item Number / Title: 3117 / MK-48 Torpedo										Item Number / Title [DODIC]: 1 / MK-48 Torpedo															
Cost Elements <i>(Units in Each)</i>							Fiscal Year 2016										Fiscal Year 2017													BALANCE					
OCO	MFR#	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2015	BAL DUE AS OF 1 OCT	Calendar Year 2016										Calendar Year 2017																		
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG		SEP				
1.1.1) Guidance & Control (G&C) Section ⁽¹⁾																																			
	1	2016	NAVY	8	0	8											A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8
	2	2017	NAVY	18	0	18																								A -	-	-	18		
	3	2018	NAVY	17	0	17																										17			
	4	2019	NAVY	45	0	45																										45			
1.1.2) After Body/Tail Cone ⁽²⁾																																			
	5	2016	NAVY	8	0	8											A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	
	6	2017	NAVY	18	0	18																								A -	18				
	7	2018	NAVY	17	0	17																										17			
	8	2019	NAVY	45	0	45	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP					

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Exhibit P-21, Production Schedule: PB 2019 Navy																							Date: February 2018																
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 03 / 1							P-1 Line Item Number / Title: 3117 / MK-48 Torpedo															Item Number / Title [DODIC]: 1 / MK-48 Torpedo																	
Cost Elements (Units in Each)							Fiscal Year 2018												Fiscal Year 2019												B A L A N C E								
O C C #	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2017	BAL DUE AS OF 1 OCT	Calendar Year 2018												Calendar Year 2019																				
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P									
1.1.1) Guidance & Control (G&C) Section ⁽¹⁾																																							
	1	2016	NAVY	8	0	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8							
	2	2017	NAVY	18	0	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18							
	3	2018	NAVY	17	0	17								A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17							
	4	2019	NAVY	45	0	45																										A -	-	-	-	-	-	-	45
1.1.2) After Body/Tail Cone ⁽²⁾																																							
	5	2016	NAVY	8	0	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	4						
	6	2017	NAVY	18	0	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18						
	7	2018	NAVY	17	0	17								A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17						
	8	2019	NAVY	45	0	45																										A -	-	-	-	-	-	-	45
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P									

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Exhibit P-21, Production Schedule: PB 2019 Navy																				Date: February 2018																	
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 03 / 1										P-1 Line Item Number / Title: 3117 / MK-48 Torpedo										Item Number / Title [DODIC]: 1 / MK-48 Torpedo																	
Cost Elements (Units in Each)							Fiscal Year 2020										Fiscal Year 2021													B A L A N C E							
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2019	BAL DUE AS OF 1 OCT	Calendar Year 2020																	Calendar Year 2021													
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G		S E P						
1.1.1) Guidance & Control (G&C) Section ⁽¹⁾																																					
	1	2016	NAVY	8	0	8	1	1	1	1	1	1	1																			0					
	2	2017	NAVY	18	0	18	-	-	-	-	-	-	-	3	3	3	3	2	2	2												0					
	3	2018	NAVY	17	0	17	-	-	-	-	-	-	-	-	2	2	2	2	3	3	3											0					
	4	2019	NAVY	45	0	45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	5	5	5	5	5	4	4	4	4	4	0					
1.1.2) After Body/Tail Cone ⁽²⁾																																					
	5	2016	NAVY	8	4	4	1	1	1	1																						0					
	6	2017	NAVY	18	0	18	-	-	-	3	3	3	3	2	2	2																0					
	7	2018	NAVY	17	0	17	-	-	-	-	-	-	-	-	2	2	3	3	3	2	2											0					
	8	2019	NAVY	45	0	45	-	-	-	-	-	-	-	-	-	-	-	-	-	4	5	5	5	5	5	4	4	4	4	4	4	0					
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P							

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Exhibit P-21, Production Schedule: PB 2019 Navy																				Date: February 2018														
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 03 / 1										P-1 Line Item Number / Title: 3117 / MK-48 Torpedo										Item Number / Title [DODIC]: 1 / MK-48 Torpedo														
Cost Elements <i>(Units in Each)</i>							Fiscal Year 2022										Fiscal Year 2023														BALANCE			
OCO	MFR#	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2021	BAL DUE AS OF 1 OCT	Calendar Year 2022										Calendar Year 2023																	
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP				
1.1.1) Guidance & Control (G&C) Section ⁽¹⁾																																		
	1	2016	NAVY	8	8	0																											0	
	2	2017	NAVY	18	18	0																											0	
	3	2018	NAVY	17	17	0																											0	
	4	2019	NAVY	45	41	4	4																											0
1.1.2) After Body/Tail Cone ⁽²⁾																																		
	5	2016	NAVY	8	8	0																											0	
	6	2017	NAVY	18	18	0																											0	
	7	2018	NAVY	17	17	0																											0	
	8	2019	NAVY	45	45	0	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP				

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Exhibit P-21, Production Schedule: PB 2019 Navy								Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 03 / 1				P-1 Line Item Number / Title: 3117 / MK-48 Torpedo				Item Number / Title [DODIC]: 1 / MK-48 Torpedo			

MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Year)			Procurement Leadtime (Months)							
		MSR For 2019	1-8-5 For 2019	MAX For 2019	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	G&C Section LMS - FY16 ⁽⁵⁾ - Marion, MA			50	0	0	36	36	0	0	0	0
2	G&C Section LMS - FY17 ⁽⁶⁾ - Marion, MA			100	0	0	32	32	0	0	0	0
3	G&C Section LMS - FY18 ⁽⁷⁾ - Marion, MA			100	0	0	26	26	0	0	0	0
4	G&C Section LMS - FY19 ⁽⁸⁾ - Marion, MA			100	0	0	20	20	0	0	0	0
5	Afterbody/Tail Cone Section SAIC - FY16 - Mclean, VA				0	0	33	33	0	0	0	0
6	Afterbody/Tail Cone Section SAIC - FY17 - Mclean, VA				0	0	28	28	0	0	0	0
7	Afterbody/Tail Cone Section SAIC - FY18 - Mclean, VA				0	0	23	23	0	0	0	0
8	Afterbody/Tail Cone Section SAIC - FY19 - Mclean, VA				0	0	17	17	0	0	0	0

"A" in the Delivery Schedule indicates the Contract Award Date.

Note: Due to space limitations, quantities in the Exhibit P-21 delivery calendar are truncated and rounded based on the maximum quantity in the calendar as follows. If the maximum quantity is less than or equal to than 9,999, all quantities are shown as each. If the maximum quantity is between 10,000 and 999,999 all quantities are shown in thousands. If the maximum quantity is between 1,000,000 and 999,999,999 all quantities are shown in millions (rounded to the nearest thousand). If the maximum quantity is equal or greater than 1,000,000,000 all quantities are shown in billions (rounded to the nearest million).

Footnotes:

⁽⁵⁾ MSR and EOQ have not yet been determined by the contractor.

⁽⁶⁾ MSR and EOQ have not yet been determined by the contractor.

⁽⁷⁾ MSR and EOQ have not yet been determined by the contractor.

⁽⁸⁾ MSR and EOQ have not yet been determined by the contractor.

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy								Date: February 2018				
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 03: Torpedoes and Related Equipment / BSA 1: Torpedoes and Related Equip						P-1 Line Item Number / Title: 3141 / ASW Targets						
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A					Other Related Program Elements: N/A				
Line Item MDAP/MAIS Code: N/A												
Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	193.671	9.106	12.399	12.324	0.000	12.324	12.344	12.568	12.780	13.053	-	278.245
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	193.671	9.106	12.399	12.324	0.000	12.324	12.344	12.568	12.780	13.053	-	278.245
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	193.671	9.106	12.399	12.324	0.000	12.324	12.344	12.568	12.780	13.053	-	278.245
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)												
Initial Spares (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (\$ in Dollars)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Dollars)	-	-	-	-	-	-	-	-	-	-	-	-
Description:												
<p>The MK-39 MOD 3 Expendable Mobile ASW Training Target (EMATT) is a small self-propelled underwater vehicle launched from fixed wing and rotary wing Anti-Submarine Warfare (ASW) aircraft and ASW surface ships for the purpose of providing basic open ocean sonar training and torpedo placement exercises. Its operation consists of a dynamic run trajectory that is actively controlled in depth and course with pre-programmable run maneuvers emulating threat submarines and is detectable by all current U.S. ASW Platforms.</p> <p>The MK-30 is an ASW training target for Navy surface ships, submarines, and aircrafts that are capable of simulating submarine threats anticipated in the twenty-first century littoral warfare environment.</p> <p>The MK-30 Service Life Extension Program (SLEP) extends the useful service life of MK-30 ASW Targets to meet annual fleet training requirements.</p> <p>[P5 / TG002 - MK39 MOD 3 EMATT]: Funding under this cost code provides for the procurement of MK-39 MOD 3 EMATT vehicles and Non-Recurring Engineering (NRE). NRE funds the cost of Pre-Proof of Manufacturing (POM) units and POM units, first article testing, tooling and test equipment, procurement of technical data package updates, start-up costs, and other one-time costs for production contractors.</p> <p>[P5 / TG007 - MK30 SLEP]: MK 30 MOD 1 Service Life Extension Program (SLEP) extends the MK 30 MOD 1 ASW Target Service Life to continue the use of MK 30 ASW Target until FY27. The SLEP efforts required include the replacement of critical navigation subsystems, power distribution subsystems, mechanical parts including replacement hull sections, and test equipment that are no longer procurable and/or can no longer be maintained or that needs updates for cyber vulnerabilities.</p> <p>[P5 / TG832 - MK39 MOD 2/3 EMATT PROD ENG (IN-HOUSE)]: Funding under this cost code provides for production engineering tasks performed by NUWC NPT and KPT including EMATT program management support, systems engineering, and production engineering.</p> <p>[P5 / TG842 - MK39 MOD 2/3 EMATT QUALITY ASSURANCE]: Funding under this cost code provides for quality assurance efforts in support of the EMATT program.</p> <p>[P5 / TG862 - MK39MOD 2/3 EMATT ACCEPTANCE T&E]: Funding under this cost code provides for production acceptance of contractor hardware for the EMATT program.</p> <p>[P5 / TG900 - MK39 MOD 2/3 EMATT CONSULTING SERVICES]: Funding under this cost code provides for contractor support services at the program office.</p>												

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy								Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 03: Torpedoes and Related Equipment / BSA 1: Torpedoes and Related Equip						P-1 Line Item Number / Title: 3141 / ASW Targets				
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A			Other Related Program Elements: N/A				
Line Item MDAP/MAIS Code: N/A										
Exhibits Schedule					Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	1 / ASW TARGETS	P-5a, P-21			- / 193.671	- / 9.106	- / 12.399	- / 12.324	- / 0.000	- / 12.324
P-40	Total Gross/Weapon System Cost				- / 193.671	- / 9.106	- / 12.399	- / 12.324	- / 0.000	- / 12.324
<small>*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.</small>										
<small>Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.</small>										

Justification:

FY 2019 funding procures 983 EMATT targets to recover from very low inventory levels to meet Non-Combat Expenditure Allocations (NCEA) and to meet future fleet ASW training requirements. The unit price reflects the actual contract unit price for EMATT through FY 2021. The unit price is stepladder and minor funding changes may result in large quantity changes.

The FY 2019 funding request was reduced by \$0.109 million to reflect the Department of Navy's effort to support the Office of Management and Budget directed reforms for Efficiency and Effectiveness that include a lean, accountable, more efficient government.

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Exhibit P-5, Cost Analysis: PB 2019 Navy												Date: February 2018						
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 03 / 1						P-1 Line Item Number / Title: 3141 / ASW Targets						Item Number / Title [DODIC]: 1 / ASW TARGETS						
ID Code (A=Service Ready, B=Not Service Ready) :									MDAP/MAIS Code:									
Resource Summary				Prior Years		FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total				
Procurement Quantity (Units in Each)				-		-		-		-		-		-				
Gross/Weapon System Cost (\$ in Millions)				193.671		9.106		12.399		12.324		0.000		12.324				
Less PY Advance Procurement (\$ in Millions)				-		-		-		-		-		-				
Net Procurement (P-1) (\$ in Millions)				193.671		9.106		12.399		12.324		0.000		12.324				
Plus CY Advance Procurement (\$ in Millions)				-		-		-		-		-		-				
Total Obligation Authority (\$ in Millions)				193.671		9.106		12.399		12.324		0.000		12.324				
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)																		
Initial Spares (\$ in Millions)				-		-		-		-		-		-				
Gross/Weapon System Unit Cost (\$ in Dollars)				-		-		-		-		-		-				
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
Hardware - TG002 - MK39 MOD 3 EMATT Cost																		
Recurring Cost																		
1.1.1) MK39 MOD 3 EMATTs ⁽¹⁾ (1)	18,576.70	3,142	58.368	6,999.00	715	5.004	6,925.00	1,000	6.925	7,097.00	983	6.976	-	-	-	7,097.00	983	6.976
1.1.2) ENGINEERING SERVICES/ECP	-	-	5.920	-	-	0.499	-	-	0.563	-	-	0.580	-	-	-	-	-	0.580
1.1.3) MK39 MOD 2 EMATT TARGETS OPTION 2	6,357.27	1,100	6.993	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Recurring Cost	-	-	71.281	-	-	5.503	-	-	7.488	-	-	7.556	-	-	-	-	-	7.556
Non Recurring Cost																		
1.2.1) NON-RECURRING	-	-	2.510	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Non Recurring Cost	-	-	2.510	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Hardware - TG002 - MK39 MOD 3 EMATT Cost	-	-	73.791	-	-	5.503	-	-	7.488	-	-	7.556	-	-	-	-	-	7.556
Hardware - TG005 - MK30 MOD 2 PROCUREMENT Cost																		
Recurring Cost																		
2.1.1) MK30 MOD 2 TARGETS	-	-	52.759	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.1.2) ENGINEERING COSTS	-	-	0.750	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Recurring Cost	-	-	53.509	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Exhibit P-5, Cost Analysis: PB 2019 Navy												Date: February 2018						
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 03 / 1						P-1 Line Item Number / Title: 3141 / ASW Targets						Item Number / Title [DODIC]: 1 / ASW TARGETS						
ID Code (A=Service Ready, B=Not Service Ready) :											MDAP/MAIS Code:							
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
Subtotal: Hardware - TG005 - MK30 MOD 2 PROCUREMENT Cost	-	-	53.509	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hardware - TG007 - MK30 SLEP Cost																		
Recurring Cost																		
3.1.1) MK30 SLEP	-	-	25.600	-	-	2.464	-	-	3.749	-	-	3.590	-	-	-	-	-	3.590
Subtotal: Recurring Cost	-	-	25.600	-	-	2.464	-	-	3.749	-	-	3.590	-	-	-	-	-	3.590
Subtotal: Hardware - TG007 - MK30 SLEP Cost	-	-	25.600	-	-	2.464	-	-	3.749	-	-	3.590	-	-	-	-	-	3.590
Support - TG015 - MK30 SUPPORT & TEST EQUIPMENT Cost																		
4.1) MK30 SUPPORT & TEST EQUIPMENT	-	-	1.122	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Support - TG015 - MK30 SUPPORT & TEST EQUIPMENT Cost	-	-	1.122	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Support - TG832 - MK39 MOD 2/3 EMATT PROD ENG (IN-HOUSE) Cost																		
5.1) MK39 MOD 2/3 EMATT PROD ENG (IN-HOUSE)	-	-	16.079	-	-	0.614	-	-	0.688	-	-	0.690	-	-	-	-	-	0.690
Subtotal: Support - TG832 - MK39 MOD 2/3 EMATT PROD ENG (IN-HOUSE) Cost	-	-	16.079	-	-	0.614	-	-	0.688	-	-	0.690	-	-	-	-	-	0.690
Support - TG835 - MK30 MOD 2 PROD ENG (IN-HOUSE) Cost																		
6.1) MK30 MOD 2 PROD ENG (IN-HOUSE)	-	-	13.118	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Support - TG835 - MK30 MOD 2 PROD ENG (IN-HOUSE) Cost	-	-	13.118	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Support - TG842 - MK39 MOD 2/3 EMATT QUALITY ASSURANCE Cost																		
7.1) MK39 MOD 2/3 EMATT QUALITY ASSURANCE	-	-	1.607	-	-	0.131	-	-	0.135	-	-	0.139	-	-	-	-	-	0.139
Subtotal: Support - TG842 - MK39 MOD 2/3 EMATT QUALITY ASSURANCE Cost	-	-	1.607	-	-	0.131	-	-	0.135	-	-	0.139	-	-	-	-	-	0.139
Support - TG862 - MK39MOD 2/3 EMATT ACCEPTANCE T&E Cost																		
8.1) MK39 MOD 2/3 EMATT ACCEPTANCE T&E	-	-	2.538	-	-	0.178	-	-	0.183	-	-	0.188	-	-	-	-	-	0.188

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Exhibit P-5, Cost Analysis: PB 2019 Navy													Date: February 2018					
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 03 / 1						P-1 Line Item Number / Title: 3141 / ASW Targets							Item Number / Title [DODIC]: 1 / ASW TARGETS					
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:								
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
Subtotal: Support - TG862 - MK39MOD 2/3 EMATT ACCEPTANCE T&E Cost	-	-	2.538	-	-	0.178	-	-	0.183	-	-	0.188	-	-	-	-	-	0.188
Support - TG865 - MK30 MOD 2 ACCEPTANCE TESTING Cost																		
9.1) MK30 MOD 2 ACCEPTANCE TESTING	-	-	2.084	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Support - TG865 - MK30 MOD 2 ACCEPTANCE TESTING Cost	-	-	2.084	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Support - TG900 - MK39 MOD 2/3 EMATT CONSULTING SERVICES Cost																		
10.1) MK39 MOD 2/3 EMATT CONSULTING SERVICES	-	-	4.223	-	-	0.216	-	-	0.156	-	-	0.161	-	-	-	-	-	0.161
Subtotal: Support - TG900 - MK39 MOD 2/3 EMATT CONSULTING SERVICES Cost	-	-	4.223	-	-	0.216	-	-	0.156	-	-	0.161	-	-	-	-	-	0.161
Gross/Weapon System Cost	-	-	193.671	-	-	9.106	-	-	12.399	-	-	12.324	-	-	0.000	-	-	12.324

(t) indicates the presence of a P-5a

Footnotes:

(1) FY 2019: TG002: Increases in MK 39 MOD 3 EMATT Targets to procure 983 EMATT targets to recover from very low inventory levels to meet Non-Combat Expenditure Allocations (NCEA) and to meet future Fleet ASW Training Requirements. The unit price reflects actual contract unit price for EMATT. The unit price is stepladder and minor funding changes may result in large quantity changes.

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Exhibit P-5a, Procurement History and Planning: PB 2019 Navy									Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 03 / 1			P-1 Line Item Number / Title: 3141 / ASW Targets						Item Number / Title [DODIC]: 1 / ASW TARGETS			
Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$)	Specs Avail Now?	Date Revision Available	RFP Issue Date
1.1.1) MK39 MOD 3 EMATTs ^(†)		2013	LOCKHEED MARTIN/SIPPICAN FY13 Option 3 / Marion, MA	C / FFP	NUWC NEWPORT	Aug 2013	Oct 2014	840	5,605.95	Y		
1.1.1) MK39 MOD 3 EMATTs ^(†)		2014	LOCKHEED MARTIN/SIPPICAN FY14 Option 4 / Marion, MA	C / FFP	NUWC NEWPORT	Sep 2014	Jul 2015	690	6,426.00	Y		Aug 2013
1.1.1) MK39 MOD 3 EMATTs ^(†)		2015	LOCKHEED MARTIN/ SIPPICAN FY15 / Marion, MA	C / FFP	NUWC NEWPORT	Nov 2014	Jul 2017	153	6,426.00	Y		Apr 2014
1.1.1) MK39 MOD 3 EMATTs ^(†)		2017	LOCKHEED MARTIN/ SIPPICAN FY17 / Marion, MA	C / FFP	NUWC NEWPORT	Nov 2016	Aug 2018	715	6,999.00	Y		
1.1.1) MK39 MOD 3 EMATTs ^(†)		2018	LOCKHEED MARTIN/ SIPPICAN FY18 / Marion, MA	C / FFP	NUWC NEWPORT	Nov 2017	Aug 2019	1,000	6,925.00	Y		
1.1.1) MK39 MOD 3 EMATTs ^(†)		2019	LOCKHEED MARTIN/ SIPPICAN FY18 / Marion, MA	C / TBD	NUWC NEWPORT	Nov 2018	Aug 2020	983	7,097.00	Y		

^(†) indicates the presence of a P-21

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Exhibit P-21, Production Schedule: PB 2019 Navy																				Date: February 2018															
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 03 / 1										P-1 Line Item Number / Title: 3141 / ASW Targets										Item Number / Title [DODIC]: 1 / ASW TARGETS															
Cost Elements <i>(Units in Each)</i>							Fiscal Year 2013										Fiscal Year 2014														B A L A N C E				
O C C #	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2012	BAL DUE AS OF 1 OCT	Calendar Year 2013										Calendar Year 2014																		
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P					
1.1.1) MK39 MOD 3 EMATTs ⁽¹⁾																																			
Prior Years Deliveries: 1459																																			
	1	2013	NAVY	840	0	840											A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	840
	2	2014	NAVY	690	0	690																									A -	690			
	3	2015	NAVY	153	0	153																										153			
	4	2017	NAVY	715	0	715																										715			
	5	2018	NAVY	1,000	0	1,000																										1,000			
	5	2019	NAVY	983	0	983																										983			
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P					

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Exhibit P-21, Production Schedule: PB 2019 Navy																				Date: February 2018												
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 03 / 1										P-1 Line Item Number / Title: 3141 / ASW Targets										Item Number / Title [DODIC]: 1 / ASW TARGETS												
Cost Elements <i>(Units in Each)</i>							Fiscal Year 2015										Fiscal Year 2016														B A L A N C E	
O C C #	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2014	BAL DUE AS OF 1 OCT	Calendar Year 2015										Calendar Year 2016															
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P		
1.1.1) MK39 MOD 3 EMATTs ⁽¹⁾																																
Prior Years Deliveries: 1459																																
	1	2013	NAVY	840	0	840	280	-	-	280	-	-	280																			0
	2	2014	NAVY	690	0	690	-	-	-	-	-	-	-	-	38	-	-	254	-	-	254	-	144									0
	3	2015	NAVY	153	0	153		A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	153		
	4	2017	NAVY	715	0	715																										715
	5	2018	NAVY	1,000	0	1,000																										1,000
	5	2019	NAVY	983	0	983																										983
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P		

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Exhibit P-21, Production Schedule: PB 2019 Navy																				Date: February 2018														
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 03 / 1										P-1 Line Item Number / Title: 3141 / ASW Targets										Item Number / Title [DODIC]: 1 / ASW TARGETS														
Cost Elements <i>(Units in Each)</i>							Fiscal Year 2017										Fiscal Year 2018													BALANCE				
OCO	MFR#	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2016	BAL DUE AS OF 1 OCT				Calendar Year 2017										Calendar Year 2018														
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG		SEP			
1.1.1) MK39 MOD 3 EMATTs ⁽¹⁾																																		
Prior Years Deliveries: 1459																																		
	1	2013	NAVY		840	840	0																										0	
	2	2014	NAVY		690	690	0																										0	
	3	2015	NAVY		153	0	153	-	-	-	-	-	-	-	-	111	-	-	-	-	-	-	-	-	-	-	-	-	42		0			
	4	2017	NAVY		715	0	715		A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	158	-	557		
	5	2018	NAVY		1,000	0	1,000											A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,000
	5	2019	NAVY		983	0	983																										983	
								OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP			

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Exhibit P-21, Production Schedule: PB 2019 Navy																				Date: February 2018																					
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 03 / 1										P-1 Line Item Number / Title: 3141 / ASW Targets										Item Number / Title [DODIC]: 1 / ASW TARGETS																					
Cost Elements <i>(Units in Each)</i>							Fiscal Year 2019										Fiscal Year 2020													BALANCE											
OCO	MFR#	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2018	BAL DUE AS OF 1 OCT				Calendar Year 2019										Calendar Year 2020																					
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG		SEP										
1.1.1) MK39 MOD 3 EMATTs ⁽¹⁾																																									
Prior Years Deliveries: 1459																																									
	1	2013	NAVY	840	840	0																											0								
	2	2014	NAVY	690	690	0																											0								
	3	2015	NAVY	153	153	0																											0								
	4	2017	NAVY	715	158	557																											-	200	-	-	200	-	-	157	0
	5	2018	NAVY	1,000	0	1,000																											-	-	-	-	-	-	-	-	-
	5	2019	NAVY	983	0	983		A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	250	-	733											
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP											

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Exhibit P-21, Production Schedule: PB 2019 Navy																				Date: February 2018															
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 03 / 1										P-1 Line Item Number / Title: 3141 / ASW Targets										Item Number / Title [DODIC]: 1 / ASW TARGETS															
Cost Elements <i>(Units in Each)</i>							Fiscal Year 2021										Fiscal Year 2022													BALANCE					
O C C #	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2020	BAL DUE AS OF 1 OCT				Calendar Year 2021										Calendar Year 2022															
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G		S E P				
1.1.1) MK39 MOD 3 EMATTs ⁽¹⁾																																			
Prior Years Deliveries: 1459																																			
	1	2013	NAVY	840	840	0																													0
	2	2014	NAVY	690	690	0																													0
	3	2015	NAVY	153	153	0																													0
	4	2017	NAVY	715	715	0																													0
	5	2018	NAVY	1,000	1,000	0																													0
	5	2019	NAVY	983	250	733	-	250	-	-	250	-	-	233	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	0				

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Exhibit P-21, Production Schedule: PB 2019 Navy									Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 03 / 1					P-1 Line Item Number / Title: 3141 / ASW Targets				Item Number / Title [DODIC]: 1 / ASW TARGETS			
MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Year)			Procurement Leadtime (Months)							
		MSR For 2019	1-8-5 For 2019	MAX For 2019	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	LOCKHEED MARTIN/ SIPPICAN FY13 Option 3 - Marion, MA	300	1,000	1,800	0	0	17	17	0	0	13	13
2	LOCKHEED MARTIN/ SIPPICAN FY14 Option 4 - Marion, MA	300	1,000	1,800	0	0	20	20	0	0	10	10
3	LOCKHEED MARTIN/ SIPPICAN FY15 - Marion, MA	300	1,000	1,800	0	0	24	24	0	0	10	10
4	LOCKHEED MARTIN/ SIPPICAN FY17 - Marion, MA	300	1,000	1,800	0	0	21	21	0	0	14	14
5	LOCKHEED MARTIN/ SIPPICAN FY18 - Marion, MA	300	1,000	1,800	0	0	21	21	0	0	14	14

"A" in the Delivery Schedule indicates the Contract Award Date.

Note: Due to space limitations, quantities in the Exhibit P-21 delivery calendar are truncated and rounded based on the maximum quantity in the calendar as follows. If the maximum quantity is less than or equal to than 9,999, all quantities are shown as each. If the maximum quantity is between 10,000 and 999,999 all quantities are shown in thousands. If the maximum quantity is between 1,000,000 and 999,999,999 all quantities are shown in millions (rounded to the nearest thousand). If the maximum quantity is equal or greater than 1,000,000,000 all quantities are shown in billions (rounded to the nearest million).

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy									Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 03: Torpedoes and Related Equipment / BSA 2: Mod of Torpedoes and Related Equip							P-1 Line Item Number / Title: 3215 / MK-54 Torpedo Mods					
ID Code (A=Service Ready, B=Not Service Ready): A				Program Elements for Code B Items: N/A					Other Related Program Elements: N/A			
Line Item MDAP/MAIS Code: N/A												
Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	651	-	-	-	-	-	-	-	6	54	-	711
Gross/Weapon System Cost (<i>\$ in Millions</i>)	994.076	97.092	104.044	105.946	0.000	105.946	120.309	136.539	148.498	199.439	-	1,905.943
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	994.076	97.092	104.044	105.946	0.000	105.946	120.309	136.539	148.498	199.439	-	1,905.943
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	994.076	97.092	104.044	105.946	0.000	105.946	120.309	136.539	148.498	199.439	-	1,905.943
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)												
Initial Spares (<i>\$ in Millions</i>)	-	4.714	16.606	6.535	-	6.535	0.697	1.507	1.525	1.579	Continuing	Continuing
Flyaway Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	1,527K	-	-	-	-	-	-	-	24,750K	3,693K	-	2,681K
Description:												
<p>This line item procures MK-54 Mod 0 Torpedo Kits, MK-54 Mod 1 Torpedo Kits, MK-54/Vertical Launch Anti-submarine Rocket (VLA) Conversion Kits, Torpedo Exercise Sections, VLA Components and Advanced Lightweight Torpedo (ALWT) hardware. It also funds the High Altitude ASW Weapon Capability (HAAWC). The MK-54 Mod 0 LWT maximizes the use of Non-Developmental Item (NDI) technologies, incorporating the proven technologies from existing torpedo programs with state of the art Commercial-Off-The-Shelf (COTS) processors and is a modular upgrade to LWT Inventory. MK-54 Mod 1 builds on the MK-54 Mod 0 improvements to expand the torpedoes capability in shallow water littoral environment and also improves the torpedoes counter-countermeasure capability to allow higher effectiveness in current and future threat environments. The MK-54 is an anti-submarine torpedo deployed from surface ships and ASW air platforms in littoral scenarios operating in shallow water acoustic and environmental conditions; effective in the presence of threat countermeasures and capable in deep water engagements. The ALWT builds on the MK 54 LWT and the MK 50 LWT, to provide improved torpedo effectiveness, through warhead, sensing, processing, propulsion and software upgrades.</p> <p>The procurements for both the MK-54 MOD 0 Kits and MK-54 MOD 1 Low Rate Initial Production (LRIP) kits overlap in FY 2016-FY 2020. HAAWC LRIP WPN begins in FY 2019. ALWT LRIP WPN begins in FY 2022</p> <p>[P5 / F5104 MK-54 MOD 0]: Funding under this cost code provides for the procurement of MK-54 MOD 0 hardware kits from the contractors (2), Engineering Change Proposals (ECPs) and Non-Recurring Engineering (NRE) to produce pre-Proof of Manufacturing (POM) units and POM units in the base year of a new contract, first article testing, product improvement, tooling and test equipment, procurement of technical data package updates and start-up costs for production contractors. The MK-54 MOD 0 Kits contract, includes Processor Group Assembly (PGA), Control Group Assembly (CGA), Inertial Measurements Unit (IMU), and afterbody components and cabling. The MK-54 MOD 0 Array Nose Assembly (ANA) kits contract, consists of array receivers and transmitters. Both contracts were competitively awarded. These items are assembled/installed with an MK-46 torpedo warhead and an upgraded MK-46 afterbody. Also included is government installation of the kits into All Up Rounds (AUR). Diminishing Manufacturing Sources (DMS) costs fund the procurement of obsolete commercial material to avoid the redesign and requalification of the electronics during the production cycle.</p> <p>[P5 / F5110 MK-54 MOD 1 HARDWARE]: Funding under this cost code provides for procurement of MK-54 MOD 1 hardware kits from the contractors (2), Engineering Change Proposals (ECPs) and Non-Recurring Engineering (NRE) to produce Proof of Manufacturing (POM) units, first article testing, product improvement, tooling and test equipment, procurement of technical data package updates, and start-up costs for production contractors. The MK-54 Mod 0 Kits contract provides the afterbody upgrade components, Inertial Measurements Unit (IMU) and Control Group Assembly (CGA) for the MK54 MOD1 Kit. The MK54 MOD 1 Array contract provides the new 112 element array, receiver, transmitter, and Processor Group Assembly (PGA). Also included is government installation of the kits into All Up Rounds(AUR). Diminishing Manufacturing Sources (DMS) costs fund the procurement of obsolete commercial material to avoid redesign and requalification of the electronics during the production cycle.</p>												

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy		Date: February 2018
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 03: Torpedoes and Related Equipment / BSA 2: Mod of Torpedoes and Related Equip		P-1 Line Item Number / Title: 3215 / MK-54 Torpedo Mods
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: N/A		
<p>[P5 / F5105 FLEET EXERCISE SYSTEMS]: Funding under this cost code provides for procurement of MK-54 Fleet Exercise Sections (FES) utilized during in-water acceptance testing of MK-54 kits, fleet exercises and developmental and operational testing.</p>		
<p>[P5 / F5107 MK-54/ VLA KITS]: Funding under this cost code provides for procurement of MK-54 VLA upgrade kits, associated hardware, installation costs, and the associated engineering tasks, which supports the conversion and upgrade of existing MK-46 VLA's to make them compatible with the new MK-54 Mod 0 Torpedo. The MK-54 VLA upgrade kit is comprised of an upgraded Digital Auto-Pilot Control (DAC) unit, upgraded air stabilizer, upgraded Thrust Vector Controller (TVC), new MK-54 Torpedo Downloader System (TDS) payload cable, and new nose cap. The MK-54/VLA kit procures and installs modified VLA items for MK-54 compatibility. A MK-54/VLA kit consists of modifications to the digital autopilot and air stabilizer and new nose caps and cables. Funding in this cost code also pays for the upgrade of existing VLA canisters to be compatible with the MK-54 VLA torpedo downloader capability.</p>		
<p>[P5 / F5109 HAAWC]: Funding under this cost code provides for procurement, Engineering Change Proposals (ECPs) and non-recurring engineering of the MK-54 High Altitude ASW Weapon Capability (HAAWC) for the P-8 aircraft. HAAWC is an Air-Launched Accessory (ALA) that allows for employment of the MK-54 outside the current fixed wing air launch envelope. The nonrecurring cost sub-cost element is required for redesign due to obsolescence and qualification of new products or contractors and proof of manufacturing units for first article testing, as well as product improvement, value engineering, tooling, test equipment, procurement of technical data package updates, start-up costs, and other one-time costs in the first year of the production contract.</p>		
<p>[P5 / F5003 SUPPORT EQUIPMENT]: Funding under this cost code provides for procurement and maintenance of support and test equipment at Naval Undersea Warfare Centers (NUWC) Keyport and Newport, and the contractor facility for assembly, testing, and integration.</p>		
<p>[P5 / F5830 PRODUCTION ENGINEERING IN-HOUSE]: Funding under this cost code provides for production engineering tasks performed by NUWC Newport and Keyport and includes review of contractor generated ECPs, review and resolution of contractor failures and proposed corrective action, configuration management activities, contractor monitoring, risk analysis, technical problem resolution, software engineering, safety, integrated logistics support, environmental engineering, and information systems. Funding maintains production specification in accordance with production processes and provides subject matter experts to support root cause analysis of failed contractor hardware and monitor contractor defect resolution and reduction processes to ensure deficiencies are effectively addressed.</p>		
<p>[P5 / F5840 QUALITY ASSURANCE]: Funding under this cost code provides for quality assurance tasks performed by Naval Undersea Warfare Center (NUWC) Newport and Keyport including: conducting quality assurance reviews of the contractor and subcontractors, documentation indicating contractor conformity to product performance requirements, and review of objective quality evidence.</p>		
<p>[P5 / F5860 ACCEPT TEST & EVALUATION]: Funding under this cost code provides for government production acceptance test planning and conducting the production acceptance test program of contractor hardware, including in-water testing of the torpedoes on department ranges.</p>		
<p>[P5 / F5900 PRODUCTION ENGINEERING CONTRACTOR]: Funding under this cost code provides for contractor support to the program office.</p>		
<p>[P5 / F5103 FIELD SUPPORT OPERATIONS]: Funding previously allocated for field support tasks to upgrade MK-46 Torpedo VLA to MK-54 Mod 0 Torpedo VLA.</p>		

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy							Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 03: Torpedoes and Related Equipment / BSA 2: Mod of Torpedoes and Related Equip					P-1 Line Item Number / Title: 3215 / MK-54 Torpedo Mods					
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A				Other Related Program Elements: N/A			
Line Item MDAP/MAIS Code: N/A										
Exhibits Schedule					Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	1 / MK-54 Torpedo Mods	P-5a, P-21			651 / 994.076	- / 97.092	- / 104.044	- / 105.946	- / 0.000	- / 105.946
P-40	Total Gross/Weapon System Cost				651 / 994.076	- / 97.092	- / 104.044	- / 105.946	- / 0.000	- / 105.946
*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.										
Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.										

Justification:

FY 2019 program funding changes:

COST CODE F5104 ITEM 1.1.1 MK54 KITS MOD 0 HARDWARE: Reduction in MOD 0 kit quantity from 114 in FY 2018 to 66 in FY 2019 to fund MOD 1 Processing Group Assembly (PGA) redesign required for MOD 1 production efforts under Cost code 5110 (Item 2.2.1).

COST CODE F5104 ITEM 1.1.3 MK 54 MOD 0 Kit Installation: The program will install procured kits delivered per the P-21 exhibit. Installation occurs one month after delivery and the installation is budgeted for in the year the installation is planned to occur. In FY 2019, 78 kits are planned for installation.

COST CODE F5110 ITEM 2.1.2 MK 54 MOD 1 DIMINISHING MANUFACTURING SOURCES: Funds are required to address obsolescence issues in the Control Group Assembly (CGA), Inertial Measurements Unit (IMU), Afterbody components and MK54 Mod 1 Array receivers and transmitter, PGA, and cabling during the production cycle. The contractors will be required to procure and deliver DMS material for these obsolete components. Increase in FY 2019 is due to substantial obsolescence issues with the PGA.

COST CODE F5110 ITEM 2.1.4 MK 54 MOD 1 INSTALLATION: Funding provides for government installation of the MK54 Mod 1 kits and Afterbodies into All Up Rounds(AUR) as shown on the P-21. Installation occurs one month after delivery and the installation is budgeted for in the year the installation is planned to occur. In FY 2019, 50 kits are planned for installation.

COST CODE 5110 ITEM 2.2.1 NRE increased in FY 2019 to redesign the torpedo electronics to address obsolescence because electronic parts from the original FY 2006 MK54 MOD 1 design will no longer be available. If the redesign is not started in FY 2019, production orders for the MK54 MOD 1 torpedo will cease in FY 2022 due to lack of parts to make the torpedo until a new design for the electronics is available and qualified. The funding in FY 2019 will be used for the design work through Critical Design Review.

COST CODE F5109 ITEM 7.1.1 HAAWC: Funding under this cost code provides for the option exercise of a Low-Rate Initial Production (LRIP) for the procurement of MK54 High Altitude ASW Weapon Capability. Increase from 30 units in FY 2018 to 87 units in FY 2019 is to meet squadron loadouts.

COST CODE F5109 ITEM 7.1.2 TM Kits: Telemetry (TM) kits are required for HAAWCs used for squadron training. FY 2019 funding supports the procurement of 36 TM Kits.

COST CODE F5109 ITEM 7.1.7 HAAWC IN-HOUSE PRODUCTION ENGINEERING SUPPORT: Funding increase required for production engineering tasks performed by field activities to review contractor generated ECPs, review and resolution of contractor failures and proposed corrective action, configuration management activities, contractor monitoring, risk analysis, technical problem resolution, software engineering, safety, integrated logistics support, environmental engineering, and information systems. Funding maintains production specification in accordance with production processes and provides subject matter experts to support root cause analysis of failed contractor hardware and monitor contractor defect resolution and reduction processes to ensure deficiencies are effectively addressed.

COST CODE F5109 ITEM 7.2.1 HAAWC NRE: Funding required for redesign due to obsolescence and qualification of new products or contractors and proof of manufacturing units for first article testing, as well as product improvement, value engineering, tooling, test equipment, procurement of technical data package updates, start-up costs, and other one-time costs in the first year of the production contract.

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy		Date: February 2018
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 03: Torpedoes and Related Equipment / BSA 2: Mod of Torpedoes and Related Equip		P-1 Line Item Number / Title: 3215 / MK-54 Torpedo Mods
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: N/A		
<p>The FY 2019 funding request was reduced by \$0.24 million to reflect the Department of Navy's effort to support the Office of Management and Budget directed reforms for Efficiency and Effectiveness that include a lean, accountable, more efficient government.</p>		

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Exhibit P-5, Cost Analysis: PB 2019 Navy												Date: February 2018							
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 03 / 2						P-1 Line Item Number / Title: 3215 / MK-54 Torpedo Mods						Item Number / Title [DODIC]: 1 / MK-54 Torpedo Mods							
ID Code (A=Service Ready, B=Not Service Ready) :									MDAP/MAIS Code:										
Resource Summary				Prior Years		FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total					
Procurement Quantity (Units in Each)				651		-		-		-		-		-					
Gross/Weapon System Cost (\$ in Millions)				994.076		97.092		104.044		105.946		0.000		105.946					
Less PY Advance Procurement (\$ in Millions)				-		-		-		-		-		-					
Net Procurement (P-1) (\$ in Millions)				994.076		97.092		104.044		105.946		0.000		105.946					
Plus CY Advance Procurement (\$ in Millions)				-		-		-		-		-		-					
Total Obligation Authority (\$ in Millions)				994.076		97.092		104.044		105.946		0.000		105.946					
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)																			
Initial Spares (\$ in Millions)				-		4.714		16.606		6.535		-		6.535					
Gross/Weapon System Unit Cost (\$ in Dollars)				1,527K		-		-		-		-		-					
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																			
Cost Elements		Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
		Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
Hardware - F5104 MK-54 MOD 0 Cost																			
Recurring Cost																			
1.1.1) MK-54 KITS - MOD 0 ⁽¹⁾		415,829.48	1,255	521.866	304,732.76	116	35.349	338,342.00	114	38.571	337,969.70	66	22.306	-	-	-	337,969.70	66	22.306
1.1.2) MK-54 ENGINEERING SERVICES/ECPS		-	-	21.001	-	-	5.517	-	-	4.428	-	-	4.573	-	-	-	-	-	4.573
1.1.3) MK-54 INSTALLATION INTO LEGACY TORPEDOS ⁽²⁾		-	-	39.163	-	-	12.168	-	-	1.484	-	-	4.212	-	-	-	-	-	4.212
1.1.4) DIMINISHING MANUFACTURING SOURCES		-	-	0.509	-	-	0.516	-	-	0.524	-	-	0.533	-	-	-	-	-	0.533
1.1.5) MK-54 Other		-	-	9.826	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Recurring Cost		-	-	592.365	-	-	53.550	-	-	45.007	-	-	31.624	-	-	-	-	-	31.624
Non Recurring Cost																			
1.2.1) MK-54 NRE		-	-	22.413	-	-	-	-	-	8.092	-	-	-	-	-	-	-	-	-
Subtotal: Non Recurring Cost		-	-	22.413	-	-	-	-	-	8.092	-	-	-	-	-	-	-	-	-
Subtotal: Hardware - F5104 MK-54 MOD 0 Cost		-	-	614.778	-	-	53.550	-	-	53.099	-	-	31.624	-	-	-	-	-	31.624
Hardware - F5110 MK-54 MOD 1 HARDWARE Cost																			
Recurring Cost																			

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Exhibit P-5, Cost Analysis: PB 2019 Navy												Date: February 2018						
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 03 / 2						P-1 Line Item Number / Title: 3215 / MK-54 Torpedo Mods						Item Number / Title [DODIC]: 1 / MK-54 Torpedo Mods						
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:								
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
2.1.1) MK-54 KITS - MOD 1 ^(†) (3)	517,500.00	80	41.400	533,000.00	30	15.990	546,333.33	30	16.390	596,966.67	30	17.909	-	-	-	596,966.67	30	17.909
2.1.2) DIMINISHING MANUFACTURING SOURCES ⁽⁴⁾	-	-	-	-	-	0.800	-	-	1.400	-	-	2.121	-	-	-	-	-	2.121
2.1.3) MK-54 ENGINEERING SERVICES / ECPS FOR KITS	-	-	5.748	-	-	4.566	-	-	4.788	-	-	5.045	-	-	-	-	-	5.045
2.1.4) MK-54 MOD 1 INSTALLATION ⁽⁵⁾	-	-	-	-	-	-	-	-	1.908	-	-	2.700	-	-	-	-	-	2.700
Subtotal: Recurring Cost	-	-	47.148	-	-	21.356	-	-	24.486	-	-	27.775	-	-	-	-	-	27.775
Non Recurring Cost																		
2.2.1) MK-54 NRE ⁽⁶⁾	-	-	10.314	-	-	-	-	-	-	-	-	6.000	-	-	-	-	-	6.000
Subtotal: Non Recurring Cost	-	-	10.314	-	-	-	-	-	-	-	-	6.000	-	-	-	-	-	6.000
Subtotal: Hardware - F5110 MK-54 MOD 1 HARDWARE Cost	-	-	57.462	-	-	21.356	-	-	24.486	-	-	33.775	-	-	-	-	-	33.775
Hardware - F5105 FLEET EXERCISE SYSTEMS Cost																		
Recurring Cost																		
4.1.1) FLEET EXERCISE SYSTEMS ^(†)	214,305.56	36	7.715	90,000.00	6	0.540	91,666.67	6	0.550	93,333.33	6	0.560	-	-	-	93,333.33	6	0.560
Subtotal: Recurring Cost	-	-	7.715	-	-	0.540	-	-	0.550	-	-	0.560	-	-	-	-	-	0.560
Subtotal: Hardware - F5105 FLEET EXERCISE SYSTEMS Cost	-	-	7.715	-	-	0.540	-	-	0.550	-	-	0.560	-	-	-	-	-	0.560
Hardware - F5107 MK-54/ VLA KITS Cost																		
Recurring Cost																		
5.1.1) MK-54 / VLA KITS ^(†)	110,653.85	182	20.139	49,750.00	40	1.990	-	-	-	-	-	-	-	-	-	-	-	-
5.1.2) MK-54 / VLA HARDWARE OBSOLESCENCE	-	-	1.093	-	-	0.250	-	-	-	-	-	-	-	-	-	-	-	-
5.1.3) MK-54 / VLA INSTALLATION	-	-	10.188	-	-	1.664	-	-	2.160	-	-	-	-	-	-	-	-	-
Subtotal: Recurring Cost	-	-	31.420	-	-	3.904	-	-	2.160	-	-	-	-	-	-	-	-	-
Subtotal: Hardware - F5107 MK-54/ VLA KITS Cost	-	-	31.420	-	-	3.904	-	-	2.160	-	-	-	-	-	-	-	-	-

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Exhibit P-5, Cost Analysis: PB 2019 Navy													Date: February 2018					
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 03 / 2							P-1 Line Item Number / Title: 3215 / MK-54 Torpedo Mods						Item Number / Title [DODIC]: 1 / MK-54 Torpedo Mods					
ID Code (A=Service Ready, B=Not Service Ready) :											MDAP/MAIS Code:							
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
Hardware - F5108 VLA COMPONENTS Cost																		
Recurring Cost																		
6.1.1) VLA COMPONENT SETS	2,255K	22	49.606	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6.1.2) VLA ENGINEERING SVCS / ECPS	-	-	3.889	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6.1.3) VLA CANISTERS	216,636.36	22	4.766	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6.1.4) VLA AUR BUILDUP / INSTALLATION	-	-	1.527	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Recurring Cost	-	-	59.788	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Hardware - F5108 VLA COMPONENTS Cost	-	-	59.788	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hardware - F5109 HAAWC Cost																		
Recurring Cost																		
7.1.1) HAAWC Kits ^(†) ₍₇₎	-	-	-	-	-	-	60,859.00	30	1.826	61,792.00	87	5.376	-	-	-	61,792.00	87	5.376
7.1.2) TM kits ^(†) ₍₈₎	-	-	-	-	-	-	-	-	-	141,000.00	36	5.076	-	-	-	141,000.00	36	5.076
7.1.3) HAAWC Engineering Services/ ECPs	-	-	-	-	-	-	-	-	2.343	-	-	2.884	-	-	-	-	-	2.884
7.1.4) HAAWC ALA Containers & Flight Test Simulator	-	-	-	-	-	-	-	-	0.080	-	-	0.250	-	-	-	-	-	0.250
7.1.5) HAAWC All Up Round Containers	-	-	-	-	-	-	-	-	0.390	-	-	1.856	-	-	-	-	-	1.856
7.1.6) DIMINISHING MANUFACTURING SOURCES	-	-	-	-	-	-	-	-	0.310	-	-	0.310	-	-	-	-	-	0.310
7.1.7) HAAWC IN-HOUSE PRODUCTION ENGINEERING SUPPORT ⁽⁹⁾	-	-	-	-	-	-	-	-	0.349	-	-	2.755	-	-	-	-	-	2.755
Subtotal: Recurring Cost	-	-	-	-	-	-	-	-	5.298	-	-	18.507	-	-	-	-	-	18.507
Non Recurring Cost																		
7.2.1) HAAWC NRE ⁽¹⁰⁾	-	-	-	-	-	-	-	-	-	-	-	3.000	-	-	-	-	-	3.000

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Exhibit P-5, Cost Analysis: PB 2019 Navy												Date: February 2018						
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 03 / 2						P-1 Line Item Number / Title: 3215 / MK-54 Torpedo Mods						Item Number / Title [DODIC]: 1 / MK-54 Torpedo Mods						
ID Code (A=Service Ready, B=Not Service Ready) :									MDAP/MAIS Code:									
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
Subtotal: Non Recurring Cost	-	-	-	-	-	-	-	-	-	-	-	3.000	-	-	-	-	-	3.000
Subtotal: Hardware - F5109 HAAWC Cost	-	-	-	-	-	-	-	-	5.298	-	-	21.507	-	-	-	-	-	21.507
Hardware - F5CA1 CONGRESSIONAL ADDS- TECHNOLOGY INSERTIONS Cost																		
Non Recurring Cost																		
8.1.1) CONGRESSIONAL ADDS - TECHNOLOGY INSERTIONS	-	-	4.400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Non Recurring Cost	-	-	4.400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Hardware - F5CA1 CONGRESSIONAL ADDS- TECHNOLOGY INSERTIONS Cost	-	-	4.400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hardware - F5CA2 CONGRESSIONAL ADDS - TORPEDO TEST HARDWARE Cost																		
Non Recurring Cost																		
9.1.1) CONGRESSIONAL ADDS - TORPEDO TEST HARDWARE	-	-	1.600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Non Recurring Cost	-	-	1.600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Hardware - F5CA2 CONGRESSIONAL ADDS - TORPEDO TEST HARDWARE Cost	-	-	1.600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hardware - F5CA3 CONGRESSIONAL ADD Cost																		
Non Recurring Cost																		
10.1.1) INTELLIGENT GRAPHICS TORPEDO TEST SET TROUBLESHOOTING MAINTENERS AID	-	-	4.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Non Recurring Cost	-	-	4.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Hardware - F5CA3 CONGRESSIONAL ADD Cost	-	-	4.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hardware - F5CA4 CONGRESSIONAL ADDS Cost																		

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Exhibit P-5, Cost Analysis: PB 2019 Navy													Date: February 2018					
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 03 / 2							P-1 Line Item Number / Title: 3215 / MK-54 Torpedo Mods						Item Number / Title [DODIC]: 1 / MK-54 Torpedo Mods					
ID Code (A=Service Ready, B=Not Service Ready) :											MDAP/MAIS Code:							
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
Non Recurring Cost																		
11.1.1) LIGHTWEIGHT TORPEDO PSU TEST EQUIPMENT MODERNIZATION	-	-	3.840	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Non Recurring Cost	-	-	3.840	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Hardware - F5CA4 CONGRESSIONAL ADDS Cost	-	-	3.840	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Support - F5003 SUPPORT EQUIPMENT Cost																		
12.1) SUPPORT EQUIPMENT	-	-	19.386	-	-	1.776	-	-	1.812	-	-	1.848	-	-	-	-	-	1.848
Subtotal: Support - F5003 SUPPORT EQUIPMENT Cost	-	-	19.386	-	-	1.776	-	-	1.812	-	-	1.848	-	-	-	-	-	1.848
Support - F5830 PRODUCTION ENGINEERING IN-HOUSE Cost																		
13.1) PRODUCTION ENGINEERING IN-HOUSE	-	-	90.130	-	-	6.937	-	-	7.430	-	-	7.368	-	-	-	-	-	7.368
Subtotal: Support - F5830 PRODUCTION ENGINEERING IN-HOUSE Cost	-	-	90.130	-	-	6.937	-	-	7.430	-	-	7.368	-	-	-	-	-	7.368
Support - F5840 QUALITY ASSURANCE Cost																		
14.1) QUALITY ASSURANCE	-	-	28.599	-	-	4.548	-	-	4.639	-	-	4.667	-	-	-	-	-	4.667
Subtotal: Support - F5840 QUALITY ASSURANCE Cost	-	-	28.599	-	-	4.548	-	-	4.639	-	-	4.667	-	-	-	-	-	4.667
Support - F5860 ACCEPT TEST & EVALUATION Cost																		
15.1) ACCEPT TEST & EVALUATION	-	-	58.192	-	-	3.815	-	-	3.891	-	-	3.904	-	-	-	-	-	3.904
Subtotal: Support - F5860 ACCEPT TEST & EVALUATION Cost	-	-	58.192	-	-	3.815	-	-	3.891	-	-	3.904	-	-	-	-	-	3.904
Support - F5900 PRODUCTION ENGINEERING CONTRACTOR Cost																		
16.1) PRODUCTION ENGINEERING CONTRACTOR	-	-	10.221	-	-	0.666	-	-	0.679	-	-	0.693	-	-	-	-	-	0.693
Subtotal: Support - F5900 PRODUCTION	-	-	10.221	-	-	0.666	-	-	0.679	-	-	0.693	-	-	-	-	-	0.693

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Exhibit P-5, Cost Analysis: PB 2019 Navy													Date: February 2018					
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 03 / 2						P-1 Line Item Number / Title: 3215 / MK-54 Torpedo Mods						Item Number / Title [DODIC]: 1 / MK-54 Torpedo Mods						
ID Code (A=Service Ready, B=Not Service Ready) :									MDAP/MAIS Code:									
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
ENGINEERING CONTRACTOR Cost																		
Support - WAXXX ACQUISITION WORKFORCE FUNDING - 2009 Cost																		
17.1) ACQUISITION WORKFORCE FUNDING - 2009	-	-	0.287	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Support - WAXXX ACQUISITION WORKFORCE FUNDING - 2009 Cost	-	-	0.287	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Support - F5103 FIELD SUPPORT OPERATIONS Cost																		
18.1) MK-46 MOD 5A (SW) SLEP KITS	-	-	1.561	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Support - F5103 FIELD SUPPORT OPERATIONS Cost	-	-	1.561	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Support - F5106 MK-54 PLATFORM INTEGRATION Cost																		
19.1) MK-54 PLATFORM INTEGRATION	-	-	0.697	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Support - F5106 MK-54 PLATFORM INTEGRATION Cost	-	-	0.697	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost	1,527K	651	994.076	-	-	97.092	-	-	104.044	-	-	105.946	-	-	0.000	-	-	105.946

(†) indicates the presence of a P-5a

Footnotes:

(1) ITEM 1.1.1 - COST CODE F5104 MK54 KITS MOD 0 HARDWARE : Reduction in MOD 0 kit quantity to fund MOD 1 PGA redesign required for MOD 1 production efforts under Cost code 5110.

(2) ITEM 1.1.3 - COST CODE F5104 MK 54 MOD 0 Kit Installation: The program will install procured kits delivered per the P-21 exhibit. Installation occurs one month after delivery and the installation is budgeted for in the year the installation is planned to occur. In FY 2019, 78 Kits are planned for installation.

(3) Unit costs were updated in FY 2019 to the estimated award values of the new sole source contract based on the proposal received from contractor.

(4) ITEM 2.1.2 - COST CODE F5110 MK 54 MOD 1 DIMINISHING MANUFACTURING SOURCES: Funds are provided to address obsolescence issues in the Control Group Assembly (CGA), Inertial Measurements Unit (IMU), Afterbody components and MK54 Mod 1 Array receivers and transmitter, Processing Group Assembly (PGA), and cabling during the production cycle.The contractors will be required to procure and deliver DMS material for these obsolete components. Increase in FY 2019 is because of substantial obsolescence issues with the PGA.

(5) ITEM 2.1.4 - COST CODE F5110 MK 54 MOD 1 INSTALLATION: Funding provides for government installation of the MK54 Mod 1 kits and Afterbodies into All Up Rounds(AUR) as shown on the P-21. Installation occurs one month after delivery and the installation is budgeted for in the year the installation is planned to occur. In FY 2019, 50 kits are planned for installation.

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Exhibit P-5, Cost Analysis: PB 2019 Navy		Date: February 2018
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 03 / 2	P-1 Line Item Number / Title: 3215 / MK-54 Torpedo Mods	Item Number / Title [DODIC]: 1 / MK-54 Torpedo Mods
ID Code (A=Service Ready, B=Not Service Ready) :		MDAP/MAIS Code:
<p>(6) ITEM 2.2.1 - COST CODE 5110 NRE: increased in FY 2019 from FY 2018 due to the need to redesign the Torpedo electronics and meet program projection requirements for the MK54 MOD 1 for domestic use. The funding in FY 2019 will be used for the design work through Critical Design Review. Redesign is necessary because electronic parts from the original design form FY06 are no longer available to make the Torpedo. Bridge buys of available electronic parts have been executed to support the FY 2018-FY 2021 planned production orders. If the redesign is not started in FY 2019, production orders for the MK54 MOD 1 torpedo will cease in FY 2022 due to lack of parts to make the torpedo until a new design for the electronics is available and qualified.</p> <p>(7) COST CODE F5109 ITEM 7.1.1 HAAWC: Funding under this cost code provides for the option exercise of a Low-Rate Initial Production (LRIP) for the procurement of MK54 High Altitude ASW Weapon Capability. Increase from 30 in FY 2018 to 87 units in FY 2019 is to meet squadron loadouts.</p> <p>(8) COST CODE F5109 ITEM 7.1.2 TM Kits: Telemetry (TM) kits are required for HAAWCs used for squadron training.</p> <p>(9) COST CODE F5109 ITEM 7.1.7 HAAWC IN-HOUSE PRODUCTION ENGINEERING SUPPORT: Funding increase required for production engineering tasks performed by field activities to review contractor generated ECPs, review and resolution of contractor failures and proposed corrective action, configuration management activities, contractor monitoring, risk analysis, technical problem resolution, software engineering, safety, integrated logistics support, environmental engineering, and information systems. Funding maintains production specification in accordance with production processes and provides subject matter experts to support root cause analysis of failed contractor hardware and monitor contractor defect resolution and reduction processes to ensure deficiencies are effectively addressed.</p> <p>(10) COST CODE F5109 ITEM 7.2.1 HAAWC NRE: Funding required for redesign due to obsolescence and qualification of new products or contractors and proof of manufacturing units for first article testing, as well as product improvement, value engineering, tooling, test equipment, procurement of technical data package updates, start-up costs, and other one-time costs in the first year of the production contract.</p>		

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Exhibit P-5a, Procurement History and Planning: PB 2019 Navy									Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity:				P-1 Line Item Number / Title:					Item Number / Title [DODIC]:			
1507N / 03 / 2				3215 / MK-54 Torpedo Mods					1 / MK-54 Torpedo Mods			
Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$)	Specs Avail Now?	Date Revision Available	RFP Issue Date
1.1.1) MK-54 KITS - MOD 0 ^(†)		2013	RAYTHEON/NORTHROP GRUMMAN / PORTSMOUTH, RHODE ISLAND/ANNAPOLIS, MD	C / FFP	NAVSEA	Aug 2013	Oct 2015	150	311,000.00	Y		
1.1.1) MK-54 KITS - MOD 0 ^(†)		2014	RAYTHEON/NORTHROP GRUMMAN / PORTSMOUTH, RHODE ISLAND/ANNAPOLIS, MD	C / FFP	NAVSEA	Aug 2014	Jul 2016	214	256,532.71	Y		
1.1.1) MK-54 KITS - MOD 0 ^(†)		2015	RAYTHEON/NORTHROP GRUMMAN / PORTSMOUTH, RHODE ISLAND/ANNAPOLIS, MD	C / FFP	NAVSEA	May 2015	May 2017	100	325,000.00	Y		
1.1.1) MK-54 KITS - MOD 0 ^(†)		2016	RAYTHEON/NORTHROP GRUMMAN / PORTSMOUTH, RHODE ISLAND/ANNAPOLIS, MD	C / FFP	NAVSEA	Aug 2016	Dec 2018	78	292,367.00	Y		
1.1.1) MK-54 KITS - MOD 0 ^(†)		2017	RAYTHEON/NORTHROP GRUMMAN / PORTSMOUTH, RHODE ISLAND/ANNAPOLIS, MD	C / FFP	NAVSEA	Sep 2017	Jan 2020	116	304,732.76	Y		
1.1.1) MK-54 KITS - MOD 0 ^(†)		2018	RAYTHEON/NORTHROP GRUMMAN / PORTSMOUTH, RHODE ISLAND/ANNAPOLIS, MD	C / FFP	NAVSEA	Jul 2018	Jul 2020	114	338,342.00	Y		
1.1.1) MK-54 KITS - MOD 0 ^(†)		2019	RAYTHEON/NORTHROP GRUMMAN / PORTSMOUTH, RHODE ISLAND/ANNAPOLIS, MD	C / FFP	NAVSEA	Jul 2019	Jul 2021	66	337,969.70	Y		
2.1.1) MK-54 KITS - MOD 1 ^(†)		2014 ⁽¹¹⁾	PROGENY/RAYTHEON - FY14/FY16 / MANASSAS VA/PORTSMOUTH, RI	Various	NAVSEA	Jul 2016	Dec 2017	40	510,000.00	Y		Jun 2014
2.1.1) MK-54 KITS - MOD 1 ^(†)		2016 ⁽¹²⁾	PROGENY / RAYTHEON - FY16 / MANASSAS VA /PORTSMOUTH, RI	Various	NAVSEA	Jul 2016	Oct 2018	40	525,000.00	Y		
2.1.1) MK-54 KITS - MOD 1 ^(†)		2017	PROGENY/RAYTHEON - FY17 / MANASSAS VA/PORTSMOUTH, RI	Various	NAVSEA	Aug 2017	Aug 2019	30	533,000.00	Y		
2.1.1) MK-54 KITS - MOD 1 ^(†)		2018	PROGENY/RAYTHEON- FY18/FY19 / MANASSAS VA/PORTSMOUTH, RI	Various	NAVSEA	Aug 2018	Jan 2020	30	546,333.33	Y		
2.1.1) MK-54 KITS - MOD 1 ^(†)		2019	PROGENY/RAYTHEON- FY18/FY19 / MANASSAS VA/PORTSMOUTH, RI	Various	NAVSEA	Aug 2019	Jan 2021	30	596,966.67	Y		
4.1.1) FLEET EXERCISE SYSTEMS		2015	NUWC KEYPORT / KEYPORT WASHINGTON	C / FFP	NUWC, KPT	Jan 2015	Jan 2016	6	88,000.00	Y		
4.1.1) FLEET EXERCISE SYSTEMS		2016	NUWC KEYPORT / KEYPORT WASHINGTON	C / FFP	NUWC, KPT	Jan 2016	Jan 2017	6	89,000.00	Y		
4.1.1) FLEET EXERCISE SYSTEMS		2017	NUWC KEYPORT / KEYPORT WASHINGTON	C / FFP	NUWC, KPT	Sep 2017	Sep 2018	6	90,000.00	Y		
4.1.1) FLEET EXERCISE SYSTEMS		2018	NUWC KEYPORT / KEYPORT WASHINGTON	C / FFP	NUWC, KPT	Sep 2018	Sep 2019	6	91,666.67	Y		
4.1.1) FLEET EXERCISE SYSTEMS		2019	NUWC KEYPORT / KEYPORT WASHINGTON	C / TBD	** NO PCO **	Sep 2019	Sep 2020	6	93,333.33	Y		

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Exhibit P-5a, Procurement History and Planning: PB 2019 Navy								Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 03 / 2				P-1 Line Item Number / Title: 3215 / MK-54 Torpedo Mods				Item Number / Title [DODIC]: 1 / MK-54 Torpedo Mods			

Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$)	Specs Avail Now?	Date Revision Available	RFP Issue Date
5.1.1) MK-54 / VLA KITS		2016	LOCKHEED MARTIN / OWEGO NY	SS / FP	NAVSUP, WSS	Jul 2016	Nov 2017	32	48,968.75	Y		
5.1.1) MK-54 / VLA KITS		2017	LOCKHEED MARTIN / AKRON OH	SS / FFP	NAVSUP, WSS	Jul 2017	Nov 2018	40	49,750.00	Y		
7.1.1) HAAWC Kits ^(†)		2018	BOEING INC / ST LOUIS, MO	SS / FFP	NAVSEA	Nov 2017	Nov 2018	30	60,859.00	Y		
7.1.1) HAAWC Kits ^(†)		2019	BOEING INC / ST LOUIS, MO	C / TBD	** NO PCO **	Nov 2018	Nov 2019	87	61,792.00	Y		
7.1.2) TM kits		2019	BOEING INC / ST LOUIS, MO	C / FFP	NAVSEA	Jan 2019	Jan 2020	36	141,000.00	Y		

^(†) indicates the presence of a P-21

Footnotes:

⁽¹¹⁾ Contract type C/FPIF/SS CPFF

⁽¹²⁾ Contract type C/FPIF/SS CPFF

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Exhibit P-21, Production Schedule: PB 2019 Navy																				Date: February 2018															
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 03 / 2										P-1 Line Item Number / Title: 3215 / MK-54 Torpedo Mods										Item Number / Title [DODIC]: 1 / MK-54 Torpedo Mods															
Cost Elements (Units in Each)							Fiscal Year 2013										Fiscal Year 2014													B A L A N C E					
O C C #	M F R #	FY	SERVICE	PROC QTY	ACCEP T P R I O R T O 1 O C T 2012	BAL DUE AS OF 1 OCT	Calendar Year 2013										Calendar Year 2014																		
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G		S E P				
1.1.1) MK-54 KITS - MOD 0 ⁽¹⁾																																			
Prior Years Deliveries: 713																																			
	1	2013	NAVY	150	0	150											A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	150
	1	2014	NAVY	214	0	214																								A -	-	214			
	2	2015	NAVY	100	0	100																										100			
	3	2016	NAVY	78	0	78																										78			
	3	2017	NAVY	116	0	116																										116			
	2	2018	NAVY	114	0	114																										114			
	2	2019	NAVY	66	0	66																										66			
2.1.1) MK-54 KITS - MOD 1 ⁽³⁾																																			
	4	2014	NAVY	40	0	40																										40			
	5	2016	NAVY	40	0	40																										40			
	6	2017	NAVY	30	0	30																										30			
	7	2018	NAVY	30	0	30																										30			
	7	2019	NAVY	30	0	30																										30			
7.1.1) HAAWC Kits ⁽⁷⁾																																			
	8	2018	NAVY	30	0	30																										30			
	8	2019	NAVY	87	0	87																										87			
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P					

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Exhibit P-21, Production Schedule: PB 2019 Navy																			Date: February 2018														
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 03 / 2										P-1 Line Item Number / Title: 3215 / MK-54 Torpedo Mods										Item Number / Title [DODIC]: 1 / MK-54 Torpedo Mods													
Cost Elements (Units in Each)							Fiscal Year 2015										Fiscal Year 2016														BALANCE		
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2014	BAL DUE AS OF 1 OCT	Calendar Year 2015										Calendar Year 2016																
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP			
1.1.1) MK-54 KITS - MOD 0 ⁽¹⁾																																	
Prior Years Deliveries: 713																																	
	1	2013	NAVY	150	0	150	-	-	-	-	-	-	-	-	-	-	-	-	27	39	40	40	4									0	
	1	2014	NAVY	214	0	214	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26	27	27	134	
	2	2015	NAVY	100	0	100									A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	
	3	2016	NAVY	78	0	78																								A -	-	78	
	3	2017	NAVY	116	0	116																										116	
	2	2018	NAVY	114	0	114																										114	
	2	2019	NAVY	66	0	66																										66	
2.1.1) MK-54 KITS - MOD 1 ⁽³⁾																																	
	4	2014	NAVY	40	0	40																							A -	-	-	40	
	5	2016	NAVY	40	0	40																							A -	-	-	40	
	6	2017	NAVY	30	0	30																										30	
	7	2018	NAVY	30	0	30																										30	
	7	2019	NAVY	30	0	30																										30	
7.1.1) HAAWC Kits ⁽⁷⁾																																	
	8	2018	NAVY	30	0	30																										30	
	8	2019	NAVY	87	0	87																										87	
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP			

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Exhibit P-21, Production Schedule: PB 2019 Navy																		Date: February 2018																										
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 03 / 2										P-1 Line Item Number / Title: 3215 / MK-54 Torpedo Mods										Item Number / Title [DODIC]: 1 / MK-54 Torpedo Mods																								
Cost Elements (Units in Each)							Fiscal Year 2017										Fiscal Year 2018														BALANCE													
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2016	BAL DUE AS OF 1 OCT	Calendar Year 2017										Calendar Year 2018																											
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP														
1.1.1) MK-54 KITS - MOD 0 ⁽¹⁾																																												
Prior Years Deliveries: 713																																												
	1	2013	NAVY		150	150	0																										0											
	1	2014	NAVY		214	80	134	27	27	27	27	26																					0											
	2	2015	NAVY		100	0	100	-	-	-	-	-	-	18	18	18	18	28															0											
	3	2016	NAVY		78	0	78	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	78													
	3	2017	NAVY		116	0	116											A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	116										
	2	2018	NAVY		114	0	114																																	A -	-	-	-	114
	2	2019	NAVY		66	0	66																										66											
2.1.1) MK-54 KITS - MOD 1 ⁽³⁾																																												
	4	2014	NAVY		40	0	40	-	-	-	-	-	-	-	-	-	-	-	-	-	4	4	4	4	4	4	4	4	4	4	0													
	5	2016	NAVY		40	0	40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40													
	6	2017	NAVY		30	0	30											A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30										
	7	2018	NAVY		30	0	30																																		A -	-	-	30
	7	2019	NAVY		30	0	30																										30											
7.1.1) HAAWC Kits ⁽⁷⁾																																												
	8	2018	NAVY		30	0	30											A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30										
	8	2019	NAVY		87	0	87																										87											
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP														

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Exhibit P-21, Production Schedule: PB 2019 Navy																		Date: February 2018																		
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 03 / 2							P-1 Line Item Number / Title: 3215 / MK-54 Torpedo Mods											Item Number / Title [DODIC]: 1 / MK-54 Torpedo Mods																		
Cost Elements (Units in Each)							Fiscal Year 2019											Fiscal Year 2020											BALANCE							
OCCO	MFR#	FY	SERVICE	PROCQTY	ACCEPT PRIOR TO 1 OCT 2018	BAL DUE AS OF 1 OCT	Calendar Year 2019											Calendar Year 2020																		
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL		AUG	SEP					
1.1.1) MK-54 KITS - MOD 0 ⁽¹⁾																																				
Prior Years Deliveries: 713																																				
	1	2013	NAVY		150	150	0																										0			
	1	2014	NAVY		214	214	0																										0			
	2	2015	NAVY		100	100	0																										0			
	3	2016	NAVY		78	0	78	-	-	8	10	10	10	10	10	10	10	-	-	-	-	-	-	-	-	-	-	-	-	-	0					
	3	2017	NAVY		116	0	116	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0					
	2	2018	NAVY		114	0	114	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	12	12	78				
	2	2019	NAVY		66	0	66												A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	66	
2.1.1) MK-54 KITS - MOD 1 ⁽³⁾																																				
	4	2014	NAVY		40	40	0																										0			
	5	2016	NAVY		40	0	40	4	4	4	4	4	4	4	4	4	4																	0		
	6	2017	NAVY		30	0	30	-	-	-	-	-	-	-	-	-	6	6	6	6	6												0			
	7	2018	NAVY		30	0	30	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	2	2	2	3	3	3	3			8				
	7	2019	NAVY		30	0	30												A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30
7.1.1) HAAWC Kits ⁽⁷⁾																																				
	8	2018	NAVY		30	0	30	-	2	2	2	2	2	2	3	3	3	3	3	3														0		
	8	2019	NAVY		87	0	87		A	-	-	-	-	-	-	-	-	-	-	7	7	7	7	7	7	7	7	7	7	8	8	8				
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP						

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Exhibit P-21, Production Schedule: PB 2019 Navy																							Date: February 2018											
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 03 / 2										P-1 Line Item Number / Title: 3215 / MK-54 Torpedo Mods													Item Number / Title [DODIC]: 1 / MK-54 Torpedo Mods											
Cost Elements (Units in Each)							Fiscal Year 2021													Fiscal Year 2022													BALANCE	
OCO	MFR#	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2020	BAL DUE AS OF 1 OCT				Calendar Year 2021												Calendar Year 2022												
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP				
1.1.1) MK-54 KITS - MOD 0 ⁽¹⁾																																		
Prior Years Deliveries: 713																																		
	1	2013	NAVY	150	150	0																											0	
	1	2014	NAVY	214	214	0																											0	
	2	2015	NAVY	100	100	0																											0	
	3	2016	NAVY	78	78	0																											0	
	3	2017	NAVY	116	116	0																											0	
	2	2018	NAVY	114	36	78	13	13	13	13	13	13																				0		
	2	2019	NAVY	66	0	66	-	-	-	-	-	-	-	-	-	7	7	7	7	7	7	8	8	8								0		
2.1.1) MK-54 KITS - MOD 1 ⁽³⁾																																		
	4	2014	NAVY	40	40	0																											0	
	5	2016	NAVY	40	40	0																											0	
	6	2017	NAVY	30	30	0																											0	
	7	2018	NAVY	30	22	8	3	3	2																							0		
	7	2019	NAVY	30	0	30	-	-	-	2	2	2	2	2	3	3	3	3	3	3	2												0	
7.1.1) HAAWC Kits ⁽⁷⁾																																		
	8	2018	NAVY	30	30	0																											0	
	8	2019	NAVY	87	79	8	8																										0	
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP				

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Exhibit P-21, Production Schedule: PB 2019 Navy								Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 03 / 2					P-1 Line Item Number / Title: 3215 / MK-54 Torpedo Mods				Item Number / Title [DODIC]: 1 / MK-54 Torpedo Mods		

MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Year)			Procurement Leadtime (Months)							
		MSR For 2019	1-8-5 For 2019	MAX For 2019	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	RAYTHEON/NORTHROP GRUMMAN - PORTSMOUTH, RHODE ISLAND/ANNAPOLIS, MD	120	216	312	0	0	26	26	0	0	23	23
2	RAYTHEON/NORTHROP GRUMMAN - PORTSMOUTH, RHODE ISLAND/ANNAPOLIS,MD	120	216	312	0	0	0	0	0	0	24	24
3	RAYTHEON/NORTHROP GRUMMAN. - PORTSMOUTH, RHODE ISLAND/ANNAPOLIS, MD	120	216	312	0	0	28	28	0	0	24	24
4	PROGENY/RAYTHEON - FY14/FY16 - MANASSAS VA/PORTSMOUTH, RI				0	0	17	17	0	0	17	17
5	PROGENY / RAYTHEON - FY16 - MANASSAS VA / PORTSMOUTH,RI				0	0	27	27	0	0	24	24
6	PROGENY/RAYTHEON - FY17 - MANASSAS VA/ PORTSMOUTH,RI				0	0	24	24	0	0	17	17
7	PROGENY/RAYTHEON- FY18/FY19 - MANASSAS VA/PORTSMOUTH,RI				0	0	17	17	0	0	17	17
8	BOEING INC - ST LOUIS, MO				0	0	12	12	0	0	9	9

"A" in the Delivery Schedule indicates the Contract Award Date.

Note: Due to space limitations, quantities in the Exhibit P-21 delivery calendar are truncated and rounded based on the maximum quantity in the calendar as follows. If the maximum quantity is less than or equal to than 9,999, all quantities are shown as each. If the maximum quantity is between 10,000 and 999,999 all quantities are shown in thousands. If the maximum quantity is between 1,000,000 and 999,999,999 all quantities are shown in millions (rounded to the nearest thousand).If the maximum quantity is equal or greater than 1,000,000,000 all quantities are shown in billions (rounded to the nearest million).

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy								Date: February 2018				
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 03: Torpedoes and Related Equipment / BSA 2: Mod of Torpedoes and Related Equip							P-1 Line Item Number / Title: 3225 / MK-48 Torpedo ADCAP Mods					
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A					Other Related Program Elements: N/A				
Line Item MDAP/MAIS Code: N/A												
Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity (Units in Each)	58	-	-	-	-	-	-	-	-	-	-	58
Gross/Weapon System Cost (\$ in Millions)	1,139.707	46.139	38.954	40.005	0.000	40.005	40.173	57.079	58.181	59.408	-	1,479.646
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	1,139.707	46.139	38.954	40.005	0.000	40.005	40.173	57.079	58.181	59.408	-	1,479.646
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	1,139.707	46.139	38.954	40.005	0.000	40.005	40.173	57.079	58.181	59.408	-	1,479.646
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)												
Initial Spares (\$ in Millions)	-	0.365	3.143	1.904	-	1.904	1.376	1.398	3.370	-	-	11.556
Flyaway Unit Cost (\$ in Dollars)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Dollars)	19,650K	-	-	-	-	-	-	-	-	-	-	25,511K
Description: This line item procures MK 48 Mod 7 Common Broadband Advanced Sonar System (CBASS) kits for Heavyweight Torpedo upgrades. The CBASS torpedo kit consists of three major components: Guidance & Control Box (GCB), a Broadband Sonar Analog Receiver (BSAR), and preamplifier. The GCB continued from Mods in production since FY 2002 and procurement of the BSAR began in FY 2004. The BSAR is a CBASS specific item, which consists of a preamplifier, receiver, and interfacing hardware that provides the capability to transmit and receive over a wide frequency band; taking advantage of broadband signal processing techniques. This provides for improvements in advanced threat countermeasures (CMs) capabilities. [P5 / D1001 Hardware]: Funding under this cost code provides for the procurement of CBASS hardware kits from the contractor, Engineering Change Proposals (ECP), and Non-Recurring Engineering (NRE) to resolve production issues, including obsolescence. Engineering Services and Engineering Change Proposals (ECPs) pay for studies, plans, design changes, and implementation of design changes by the contractor; primarily due to obsolescence that occurs during the contract performance. Also included in this cost code is the cost of government installation of kits procured in prior years. The installation includes required upgrades to convert the MK 48 Mod 6 Torpedo into a MK 48 Mod 7 Torpedo. The pre-amp, guidance control box, EMI filter, and Broadband Sonar Analog Receiver (BSAR) are installed at the government Intermediate Maintenance Activity. The torpedo goes through a final integration test, is loaded with the operational software, and completes quality assurance checkout prior to issuing it as a warshot or exercise torpedo. Diminishing Manufacturing Sources (DMS) funds are provided to procure electronic parts, which are declared obsolete by the original equipment manufacturing. This is done to avoid the cost of an expensive redesign in the CBASS kit during execution of the production contract. The contractor will be required to procure, deliver, and store the MK 48 Mod 7 DMS material for these obsolete components. Non-Recurring Engineering (NRE) funds the procurement of Proof of Manufacturing (POM) units for government testing, first article testing, tooling and test equipment, procurement of technical data package updates, and start-up costs for the production contract. [P5 / D1002 - MK48 TI-1 Hardware]: Program under this cost code provides for the procurement of Low Rate Initial Procurement (LRIP) for TI-1 Guidance & Control Section upgrade, which will supply a new Guidance and Control (G&C) including new Sonar Assembly (higher density array, transmitter, receiver), Guidance and Control Box (GCB), Tuning Box, and an Ethernet device switch. In addition to the G&C section, the TI-1 upgrade will also feature a new Warhead Electronics System (WES) to support improved fuzing and the Improved Post Launch Communications System (IPLCS), which will potentially replace the existing copper guidance wire with fiber optics. Improvements are needed in the presence of countermeasures, shallow water, low Doppler targets, fusing, Very Shallow Water (VSW), and Anti Surface Warfare (ASuW) performance. TI-1 upgrade allows full fleet introduction of the APB-6 and to meet requirements of MK 48 Improvements CDD (857-97-12). A new competitive TI-1 G&C contract will be awarded in FY2023.												

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy		Date: February 2018
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 03: Torpedoes and Related Equipment / BSA 2: Mod of Torpedoes and Related Equip		P-1 Line Item Number / Title: 3225 / MK-48 Torpedo ADCAP Mods
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: N/A		
<p>[P5 / D1003 - Support and Ancillary Equipment]: Funding under this cost code provides procurement and maintenance of support and test equipment at Naval Undersea Warfare Centers (NUWC) Keyport and the contractor facility for assembly, testing, and integration.</p> <p>[P5 / D1830 - Production Engineering (Contractor & In-House)]: Production Engineering (Contractor & In-House): Funding under this cost code provides for production tasks performed by NUWC NPT and KPT and includes review of contractor generated Engineering Change Proposals (ECP), review and resolution of contractor failures and proposed corrective action, configuration management activities, contractor monitoring, risk analysis, technical problem resolution, software engineering, safety, integrated logistics support, environmental engineering, and information systems. Funding maintains production specification in accordance with production processes, provides subject matter experts to support root cause analysis of failed contractor hardware, and monitor contractor defect reduction processes to ensure deficiencies are effectively addressed. Funding is also provided for program office acquisition support.</p> <p>[P5 / D1840 - Quality Assurance]: Funding under this cost code provides for quality assurance (QA) tasks performed by NUWC DIV KPT and NPT including: QA review of the contractor and subcontractor's data, review of the documentation indicating conformity to product performance requirements, and review of objective quality evidence.</p> <p>[P5 / D1860 - Acceptance T&E (Contractor & In-House)]: Funding under this cost code provides for Government production acceptance testing of contractor hardware.</p> <p>[P5 / D1CA1 - Congressional Add - Obsolescence]: Funding under this cost code provides for production engineering tasks associated with MK-48 hardware obsolescence.</p> <p>[P5 / D1CA2 - Congressional Add - Tech Insert]: Funding under this cost code provides for production engineering tasks associated with a technology refresh for the MK-48 sonar array and signal processor cards.</p> <p>[P5 / D1CA3 - Congressional Add - ASW Enhancements]: Funding under this cost code provides for production engineering tasks associated with a technology refresh for the MK-48 sonar array.</p>		

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy							Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 03: Torpedoes and Related Equipment / BSA 2: Mod of Torpedoes and Related Equip					P-1 Line Item Number / Title: 3225 / MK-48 Torpedo ADCAP Mods					
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A				Other Related Program Elements: N/A			
Line Item MDAP/MAIS Code: N/A										
Exhibits Schedule					Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	1 / MK-48 Torpedo ADCAP Mods	P-5a, P-21			58 / 1,139.707	- / 46.139	- / 38.954	- / 40.005	- / 0.000	- / 40.005
P-40	Total Gross/Weapon System Cost				58 / 1,139.707	- / 46.139	- / 38.954	- / 40.005	- / 0.000	- / 40.005
*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.										
Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.										

Justification:

FY 2019 Program Changes:

1.1.4 CBASS Installation: FY 2019 funding supports the increase in installations of CBASS kits. In FY 2019, 50 kits are scheduled to be delivered and installed.

The FY 2019 funding request was reduced by \$0.103 million to reflect the Department of Navy's effort to support the Office of Management and Budget directed reforms for Efficiency and Effectiveness that include a lean, accountable, more efficient government.

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Exhibit P-5, Cost Analysis: PB 2019 Navy												Date: February 2018						
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 03 / 2						P-1 Line Item Number / Title: 3225 / MK-48 Torpedo ADCAP Mods						Item Number / Title [DODIC]: 1 / MK-48 Torpedo ADCAP Mods						
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:								
Resource Summary				Prior Years		FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total				
Procurement Quantity <i>(Units in Each)</i>				58		-		-		-		-		-		-		
Gross/Weapon System Cost <i>(\$ in Millions)</i>				1,139.707		46.139		38.954		40.005		0.000		40.005				
Less PY Advance Procurement <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Net Procurement (P-1) <i>(\$ in Millions)</i>				1,139.707		46.139		38.954		40.005		0.000		40.005				
Plus CY Advance Procurement <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Total Obligation Authority <i>(\$ in Millions)</i>				1,139.707		46.139		38.954		40.005		0.000		40.005				
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)																		
Initial Spares <i>(\$ in Millions)</i>				-		0.365		3.143		1.904		-		1.904				
Gross/Weapon System Unit Cost <i>(\$ in Dollars)</i>				19,650K		-		-		-		-		-				
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
Hardware - D1001 Hardware Cost																		
Recurring Cost																		
1.1.1) ADCAP Mod Kits	-	-	228.988	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.1.2) CBASS Kits ^(†)	308,817.96	824	254.466	214,075.00	75	16.056	204,587.00	79	16.162	205,964.00	79	16.271	-	-	-	205,964.00	79	16.271
1.1.3) CBASS Engineering Services/ ECPs	-	-	20.854	-	-	6.770	-	-	5.298	-	-	5.404	-	-	-	-	-	5.404
1.1.4) CBASS Installation ⁽¹⁾	-	-	32.040	-	-	8.721	-	-	2.464	-	-	3.135	-	-	-	-	-	3.135
1.1.5) Diminishing Manufacturing Sources ⁽²⁾	-	-	0.500	-	-	0.407	-	-	0.415	-	-	0.200	-	-	-	-	-	0.200
Subtotal: Recurring Cost	-	-	536.848	-	-	31.954	-	-	24.339	-	-	25.010	-	-	-	-	-	25.010
Non Recurring Cost																		
1.2.1) CBASS NRE	-	-	50.497	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Non Recurring Cost	-	-	50.497	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Hardware - D1001 Hardware Cost	-	-	587.345	-	-	31.954	-	-	24.339	-	-	25.010	-	-	-	-	-	25.010
Support - D1003 - Support and Ancillary Equipment Cost																		
3.1) Support & Ancillary Equipment	-	-	51.621	-	-	1.587	-	-	1.619	-	-	1.651	-	-	-	-	-	1.651

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Exhibit P-5, Cost Analysis: PB 2019 Navy												Date: February 2018						
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 03 / 2						P-1 Line Item Number / Title: 3225 / MK-48 Torpedo ADCAP Mods						Item Number / Title [DODIC]: 1 / MK-48 Torpedo ADCAP Mods						
ID Code (A=Service Ready, B=Not Service Ready) :									MDAP/MAIS Code:									
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
Subtotal: Support - D1003 - Support and Ancillary Equipment Cost	-	-	51.621	-	-	1.587	-	-	1.619	-	-	1.651	-	-	-	-	-	1.651
Support - D1830 - Production Engineering (Contractor & In-House) Cost																		
4.1) Production Enginnering (Contractor & In-House)	-	-	278.613	-	-	7.050	-	-	7.337	-	-	7.571	-	-	-	-	-	7.571
Subtotal: Support - D1830 - Production Engineering (Contractor & In-House) Cost	-	-	278.613	-	-	7.050	-	-	7.337	-	-	7.571	-	-	-	-	-	7.571
Support - D1840 - Quality Assurance Cost																		
5.1) Quality Assurance (In-House)	-	-	20.175	-	-	2.776	-	-	2.832	-	-	2.889	-	-	-	-	-	2.889
Subtotal: Support - D1840 - Quality Assurance Cost	-	-	20.175	-	-	2.776	-	-	2.832	-	-	2.889	-	-	-	-	-	2.889
Support - D1860 - Acceptance T&E (Contractor & In-House) Cost																		
6.1) Acceptance T&E (Contractor & In-House)	-	-	182.853	-	-	2.772	-	-	2.827	-	-	2.884	-	-	-	-	-	2.884
Subtotal: Support - D1860 - Acceptance T&E (Contractor & In-House) Cost	-	-	182.853	-	-	2.772	-	-	2.827	-	-	2.884	-	-	-	-	-	2.884
Support - D1CA1 - Congressional Add - Obsolescence Cost																		
7.1) Congressional Add - Obsolescence	-	-	10.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Support - D1CA1 - Congressional Add - Obsolescence Cost	-	-	10.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Support - D1CA2 - Congressional Add - Tech Insert Cost																		
8.1) Congressional Add - Tech Insertion	-	-	2.700	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Support - D1CA2 - Congressional Add - Tech Insert Cost	-	-	2.700	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Support - D1CA3 - Congressional Add - ASW Enhancements Cost																		
9.1) Congressional Add - ASW Enhancements	-	-	6.400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Support - D1CA3 - Congressional Add - ASW Enhancements Cost	-	-	6.400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost	19,650K	58	1,139.707	-	-	46.139	-	-	38.954	-	-	40.005	-	-	0.000	-	-	40.005

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Exhibit P-5, Cost Analysis: PB 2019 Navy		Date: February 2018
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 03 / 2	P-1 Line Item Number / Title: 3225 / MK-48 Torpedo ADCAP Mods	Item Number / Title [DODIC]: 1 / MK-48 Torpedo ADCAP Mods
ID Code (A=Service Ready, B=Not Service Ready) :		MDAP/MAIS Code:
(†) indicates the presence of a P-5a		
Footnotes: (1) CBASS Kit installation cost in FY 2019 is based on kits delivered per the P-21 exhibit and supports installation of 50 kits. (2) DMS: Funds provided to address obsolescence issues in the G&C section. The contractor will be required to procure, deliver, and store the MK48 Mod 7 DMS Material for these obsolete components for installation into G&C assembly builds.		

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Exhibit P-5a, Procurement History and Planning: PB 2019 Navy								Date: February 2018				
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 03 / 2				P-1 Line Item Number / Title: 3225 / MK-48 Torpedo ADCAP Mods				Item Number / Title [DODIC]: 1 / MK-48 Torpedo ADCAP Mods				
Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$)	Specs Avail Now?	Date Revision Available	RFP Issue Date
1.1.2) CBASS Kits ^(†)		2012	LOCKHEED MARTIN/ SIPPICAN / Marion, MA	C / FPIF	NAVSEA	Aug 2012	Oct 2015	58	237,103.45	Y		
1.1.2) CBASS Kits ^(†)		2013	LOCKHEED MARTIN/ SIPPICAN / Marion, MA	C / FPIF	NAVSEA	Aug 2013	Mar 2016	114	214,026.32	Y		
1.1.2) CBASS Kits ^(†)		2014	LOCKHEED MARTIN/SIPPICAN FY14 Option / Marion, MA	C / FPIF	NAVSEA	Aug 2014	Jan 2017	108	226,351.85	Y		
1.1.2) CBASS Kits ^(†)		2015	LOCKHEED MARTIN/SIPPICAN FY15 Option / Marion, MA	C / FPIF	NAVSEA	Sep 2015	Oct 2017	44	290,496.00	Y		
1.1.2) CBASS Kits ^(†)		2016 ⁽³⁾	LOCKHEED MARTIN/ SIPPICAN FY16 ⁽⁴⁾ / Marion, MA	C / FFP	NAVSEA	May 2016	May 2019	81	241,517.00	Y		
1.1.2) CBASS Kits ^(†)		2017	LOCKHEED MARTIN/SIPPICAN FY17 Option ⁽⁵⁾ / Marion, MA	C / FFP	NAVSEA	Sep 2017	May 2020	75	214,075.00	Y		
1.1.2) CBASS Kits ^(†)		2018	LOCKHEED MARTIN/SIPPICAN FY18 Option ⁽⁶⁾ / Marion, MA	C / FFP	NAVSEA	May 2018	Jul 2020	79	204,587.00	Y		
1.1.2) CBASS Kits ^(†)		2019	LOCKHEED MARTIN/SIPPICAN FY19 Option ⁽⁷⁾ / Marion, MA	C / FFP	NAVSEA	May 2019	Jan 2021	79	205,964.00	Y		

^(†) indicates the presence of a P-21

Footnotes:

⁽³⁾ New competitive contract award in FY 2016. Longer lead time to delivery of Proof of Manufacturing (POM) units.

⁽⁴⁾ MSR and EOQ have not yet been determined by the contractor.

⁽⁵⁾ MSR and EOQ have not yet been determined by the contractor.

⁽⁶⁾ MSR and EOQ have not yet been determined by the contractor.

⁽⁷⁾ MSR and EOQ have not yet been determined by the contractor.

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Exhibit P-21, Production Schedule: PB 2019 Navy																			Date: February 2018																			
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 03 / 2										P-1 Line Item Number / Title: 3225 / MK-48 Torpedo ADCAP Mods																			Item Number / Title [DODIC]: 1 / MK-48 Torpedo ADCAP Mods									
Cost Elements <i>(Units in Each)</i>								Fiscal Year 2012														Fiscal Year 2013														B A L A N C E		
O C C #	M F R #	FY	SERVICE	PROC QTY	ACCEP T P R I O R T O 1 O C T 2011	BAL DUE AS OF 1 OCT	Calendar Year 2012														Calendar Year 2013																	
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P								
1.1.2) CBASS Kits																																						
Prior Years Deliveries: 419																																						
	1	2012	NAVY	58	0	58															A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	58	
	1	2013	NAVY	114	0	114																													A	-	-	114
	2	2014	NAVY	108	0	108																													108			
	3	2015	NAVY	44	0	44																													44			
	4	2016	NAVY	81	0	81																													81			
	5	2017	NAVY	75	0	75																													75			
	6	2018	NAVY	79	0	79																													79			
	7	2019	NAVY	79	0	79																													79			
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P								

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Exhibit P-21, Production Schedule: PB 2019 Navy																							Date: February 2018										
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 03 / 2										P-1 Line Item Number / Title: 3225 / MK-48 Torpedo ADCAP Mods													Item Number / Title [DODIC]: 1 / MK-48 Torpedo ADCAP Mods										
Cost Elements <i>(Units in Each)</i>							Fiscal Year 2014												Fiscal Year 2015												BALANCE		
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2013	BAL DUE AS OF 1 OCT	Calendar Year 2014												Calendar Year 2015														
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP			
1.1.2) CBASS Kits																																	
Prior Years Deliveries: 419																																	
	1	2012	NAVY	58	0	58	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	58		
	1	2013	NAVY	114	0	114	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	114		
	2	2014	NAVY	108	0	108											A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	108
	3	2015	NAVY	44	0	44																										A -	44
	4	2016	NAVY	81	0	81																											81
	5	2017	NAVY	75	0	75																											75
	6	2018	NAVY	79	0	79																											79
	7	2019	NAVY	79	0	79																											79
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP			

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Exhibit P-21, Production Schedule: PB 2019 Navy																				Date: February 2018														
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 03 / 2										P-1 Line Item Number / Title: 3225 / MK-48 Torpedo ADCAP Mods										Item Number / Title [DODIC]: 1 / MK-48 Torpedo ADCAP Mods														
Cost Elements <i>(Units in Each)</i>							Fiscal Year 2016													Fiscal Year 2017													BALANCE	
OCO	MFR#	FY	SERVICE	PROCQTY	ACCEPT PRIOR TO 1 OCT 2015	BAL DUE AS OF 1 OCT				Calendar Year 2016												Calendar Year 2017												
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP				
1.1.2) CBASS Kits																																		
Prior Years Deliveries: 419																																		
	1	2012	NAVY	58	0	58	12	16	16	14																								0
	1	2013	NAVY	114	0	114	-	-	-	-	-	8	9	9	9	9	9	15	15	22														0
	2	2014	NAVY	108	0	108	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	12	12	12	12	13	13	13	13	0				
	3	2015	NAVY	44	0	44	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	44				
	4	2016	NAVY	81	0	81							A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	81				
	5	2017	NAVY	75	0	75																								A	-	75		
	6	2018	NAVY	79	0	79																								79				
	7	2019	NAVY	79	0	79																								79				
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP				

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Exhibit P-21, Production Schedule: PB 2019 Navy																				Date: February 2018															
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 03 / 2										P-1 Line Item Number / Title: 3225 / MK-48 Torpedo ADCAP Mods										Item Number / Title [DODIC]: 1 / MK-48 Torpedo ADCAP Mods															
Cost Elements <i>(Units in Each)</i>							Fiscal Year 2018										Fiscal Year 2019													BALANCE					
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2017	BAL DUE AS OF 1 OCT	Calendar Year 2018										Calendar Year 2019																		
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG		SEP				
1.1.2) CBASS Kits																																			
Prior Years Deliveries: 419																																			
	1	2012	NAVY		58	58	0																												0
	1	2013	NAVY		114	114	0																												0
	2	2014	NAVY		108	108	0																												0
	3	2015	NAVY		44	0	44																												17
	4	2016	NAVY		81	0	81	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	10	10	10	10	31				
	5	2017	NAVY		75	0	75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	75				
	6	2018	NAVY		79	0	79						A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	79				
	7	2019	NAVY		79	0	79																												79
								OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP				

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Exhibit P-21, Production Schedule: PB 2019 Navy																				Date: February 2018												
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 03 / 2										P-1 Line Item Number / Title: 3225 / MK-48 Torpedo ADCAP Mods										Item Number / Title [DODIC]: 1 / MK-48 Torpedo ADCAP Mods												
Cost Elements (Units in Each)							Fiscal Year 2020										Fiscal Year 2021										B A L A N C E					
O C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2019	BAL DUE AS OF 1 OCT	Calendar Year 2020										Calendar Year 2021															
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y		J U N	J U L	A U G	S E P	
1.1.2) CBASS Kits																																
Prior Years Deliveries: 419																																
	1	2012	NAVY		58	58	0																									0
	1	2013	NAVY		114	114	0																									0
	2	2014	NAVY		108	108	0																									0
	3	2015	NAVY		44	44	0																									0
	4	2016	NAVY		81	50	31	10	10	11																						0
	5	2017	NAVY		75	0	75	-	-	-	-	-	-	13	13	13	13	13	10													0
	6	2018	NAVY		79	0	79	-	-	-	-	-	-	-	-	5	14	14	14	14	14	14	4									0
	7	2019	NAVY		79	0	79	-	-	-	-	-	-	-	-	-	-	-	-	7	7	8	8	8	8	8	8	8	8	9		
								O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	

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Exhibit P-21, Production Schedule: PB 2019 Navy								Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 03 / 2				P-1 Line Item Number / Title: 3225 / MK-48 Torpedo ADCAP Mods				Item Number / Title [DODIC]: 1 / MK-48 Torpedo ADCAP Mods			

MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Year)			Procurement Leadtime (Months)							
		MSR For 2019	1-8-5 For 2019	MAX For 2019	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	LOCKHEED MARTIN/ SIPPICAN - Marion, MA	89	148	240	0	3	25	28	0	3	23	26
2	LOCKHEED MARTIN/ SIPPICAN FY14 Option - Marion, MA	89	148	240	0	0	0	0	0	0	20	20
3	LOCKHEED MARTIN/ SIPPICAN FY15 Option - Marion, MA	89	148	240	0	0	0	0	0	0	25	25
4	LOCKHEED MARTIN/ SIPPICAN FY16 ⁽⁴⁾ - Marion, MA			90	0	0	36	36	0	0	0	0
5	LOCKHEED MARTIN/ SIPPICAN FY17 Option ⁽⁵⁾ - Marion, MA			90	0	0	32	32	0	0	0	0
6	LOCKHEED MARTIN/ SIPPICAN FY18 Option ⁽⁶⁾ - Marion, MA			90	0	0	26	26	0	0	0	0
7	LOCKHEED MARTIN/ SIPPICAN FY19 Option ⁽⁷⁾ - Marion, MA			100	0	0	26	26	0	0	20	20

"A" in the Delivery Schedule indicates the Contract Award Date.

Note: Due to space limitations, quantities in the Exhibit P-21 delivery calendar are truncated and rounded based on the maximum quantity in the calendar as follows. If the maximum quantity is less than or equal to than 9,999, all quantities are shown as each. If the maximum quantity is between 10,000 and 999,999 all quantities are shown in thousands. If the maximum quantity is between 1,000,000 and 999,999,999 all quantities are shown in millions (rounded to the nearest thousand). If the maximum quantity is equal or greater than 1,000,000,000 all quantities are shown in billions (rounded to the nearest million).

Footnotes:

⁽⁴⁾ MSR and EOQ have not yet been determined by the contractor.

⁽⁵⁾ MSR and EOQ have not yet been determined by the contractor.

⁽⁶⁾ MSR and EOQ have not yet been determined by the contractor.

⁽⁷⁾ MSR and EOQ have not yet been determined by the contractor.

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy										Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 03: Torpedoes and Related Equipment / BSA 2: Mod of Torpedoes and Related Equip							P-1 Line Item Number / Title: 3231 / Quickstrike Mine					
ID Code (A=Service Ready, B=Not Service Ready): A				Program Elements for Code B Items: N/A				Other Related Program Elements: N/A				
Line Item MDAP/MAIS Code: N/A												
Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	61.647	1.236	10.337	9.758	0.000	9.758	5.183	5.289	8.585	8.793	-	110.828
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	61.647	1.236	10.337	9.758	0.000	9.758	5.183	5.289	8.585	8.793	-	110.828
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	61.647	1.236	10.337	9.758	0.000	9.758	5.183	5.289	8.585	8.793	-	110.828
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

The FY 2019 funding request was reduced by \$0.031 million to reflect the Department of Navy's effort to support the Office of Management and Budget directed reforms for Efficiency and Effectiveness that include a lean, accountable, more efficient government.

The program provides Naval mines for use as anti-ship or anti-submarine subsurface weapons.

The Naval mining capability consists of the QUICKSTRIKE (QS) mine, the Submarine Launched Mobile Mine (SLMM), and the modified Clandestine Delivered Mine (CDM).

The Quickstrike is a family of shallow water, aircraft laid mines used primarily against surface and subsurface craft. The QUICKSTRIKE family of delivered mines has 3 variants based on size - the MK 62, MK 63, and MK 65. The MK 62 and MK 63 (500 lb. and 1000 lb.) QS are created by adding mine hardware to the MK 82 and MK 83 general purpose bomb (respectively) to form a mine. The MK 65 (2000 lb.) QS consists entirely of hardware designed for use as a mine. The Mod 0, 1, and 3 variants utilize various Target Detection Devices (TDD). The QS Mod 3 utilizes a newly developed TDD MK 71, a software-programmable device capable of being programmed to optimize detection of new threats. For the QUICKSTRIKE MK 62 and 63, the QS Mod 3 Kit consists of the TDD (including the service and dummy MK 71), Safe/Arming (S&A) devices (including the service MK 75, practice MK 81, and dummy MK 84), battery (MK 176), TDD Adapter Ring MK 163, and miscellaneous hardware. For the QUICKSTRIKE MK 65, the Mod 3 Kit consists of the TDD (including the service and dummy MK 71), the existing S&A devices (including the service MK 45 and practice and dummy S&A devices), the existing batteries MK 131 or 132, TDD Adapter MK 157, and miscellaneous hardware. Additional support hardware for the QS MK 62/63/65 Mod 3 includes Test Set MK 650 and Programmer MK 11. The MK 67 SLMM is the only submarine launched variant. The CDM uses existing SLMM components to provide a mine with potential to be delivered by unmanned maritime platforms.

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy								Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 03: Torpedoes and Related Equipment / BSA 2: Mod of Torpedoes and Related Equip						P-1 Line Item Number / Title: 3231 / Quickstrike Mine				
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A			Other Related Program Elements: N/A				
Line Item MDAP/MAIS Code: N/A										
Exhibits Schedule					Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	1 / Quickstrike Mine				- / 61.647	- / 1.236	- / 10.337	- / 9.758	- / 0.000	- / 9.758
P-40	Total Gross/Weapon System Cost				- / 61.647	- / 1.236	- / 10.337	- / 9.758	- / 0.000	- / 9.758
<small>*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.</small>										
<small>Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.</small>										

Justification:
 FY 2019 provides funding for the baseline program supporting mining capabilities for the US Navy which are deployed by multiple aircraft vehicles or are submarine launched. Also, in FY19, procurement of the Clandestine Delivered Mine (CDM) commences. This system provides a capability as required by Joint Emergent Operational Need PC-0012 which will convert legacy mining systems for delivery by Extra Large Unmanned Undersea Vehicles (XLUUV). This capability allows access to contested environments and reduces risk by using unmanned platforms.

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Exhibit P-5, Cost Analysis: PB 2019 Navy												Date: February 2018							
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 03 / 2						P-1 Line Item Number / Title: 3231 / Quickstrike Mine						Item Number / Title [DODIC]: 1 / Quickstrike Mine							
ID Code (A=Service Ready, B=Not Service Ready) :									MDAP/MAIS Code:										
Resource Summary				Prior Years		FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total					
Procurement Quantity <i>(Units in Each)</i>				-		-		-		-		-		-					
Gross/Weapon System Cost <i>(\$ in Millions)</i>				61.647		1.236		10.337		9.758		0.000		9.758					
Less PY Advance Procurement <i>(\$ in Millions)</i>				-		-		-		-		-		-					
Net Procurement (P-1) <i>(\$ in Millions)</i>				61.647		1.236		10.337		9.758		0.000		9.758					
Plus CY Advance Procurement <i>(\$ in Millions)</i>				-		-		-		-		-		-					
Total Obligation Authority <i>(\$ in Millions)</i>				61.647		1.236		10.337		9.758		0.000		9.758					
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)																			
Initial Spares <i>(\$ in Millions)</i>				-		-		-		-		-		-					
Gross/Weapon System Unit Cost <i>(\$ in Dollars)</i>				-		-		-		-		-		-					
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																			
Cost Elements		Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
		Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
Hardware Cost																			
Recurring Cost																			
1.1.1) TDD MK-71		-	-	26.181	-	-	-	-	-	3.459	-	-	1.923	-	-	-	-	-	1.923
1.1.2) MK-65 Mod Kit		-	-	2.870	-	-	-	-	-	1.256	-	-	0.456	-	-	-	-	-	0.456
1.1.3) MK-62/63 Mod Kit		-	-	10.172	-	-	-	-	-	3.644	-	-	3.772	-	-	-	-	-	3.772
1.1.4) Support Equipment		-	-	5.225	-	-	0.298	-	-	0.580	-	-	0.352	-	-	-	-	-	0.352
1.1.5) Clandestine Delivered Mine (CDM)		-	-	2.000	-	-	-	-	-	-	-	-	2.538	-	-	-	-	-	2.538
1.1.6) Production ECP (HW/SW)		-	-	1.520	-	-	0.082	-	-	0.084	-	-	0.084	-	-	-	-	-	0.084
1.1.7) Data Recorder		-	-	0.879	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.1.8) SLMM		-	-	1.850	-	-	-	-	-	0.337	-	-	-	-	-	-	-	-	-
Subtotal: Recurring Cost		-	-	50.697	-	-	0.380	-	-	9.360	-	-	9.125	-	-	-	-	-	9.125
Subtotal: Hardware Cost		-	-	50.697	-	-	0.380	-	-	9.360	-	-	9.125	-	-	-	-	-	9.125
Support Cost																			
2.1) Production Engineering		-	-	10.425	-	-	0.791	-	-	0.860	-	-	0.516	-	-	-	-	-	0.516
2.2) Integrated Logistics Support		-	-	0.525	-	-	0.065	-	-	0.117	-	-	0.117	-	-	-	-	-	0.117
Subtotal: Support Cost		-	-	10.950	-	-	0.856	-	-	0.977	-	-	0.633	-	-	-	-	-	0.633
Gross/Weapon System Cost		-	-	61.647	-	-	1.236	-	-	10.337	-	-	9.758	-	-	0.000	-	-	9.758

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Exhibit P-5, Cost Analysis: PB 2019 Navy		Date: February 2018
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 03 / 2	P-1 Line Item Number / Title: 3231 / Quickstrike Mine	Item Number / Title [DODIC]: 1 / Quickstrike Mine
ID Code (A=Service Ready, B=Not Service Ready) :		MDAP/MAIS Code:

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy								Date: February 2018				
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 03: Torpedoes and Related Equipment / BSA 3: Support Equipment						P-1 Line Item Number / Title: 3301 / Torpedo Support Equipment						
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A					Other Related Program Elements: N/A				
Line Item MDAP/MAIS Code: N/A												
Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	464.596	54.971	70.383	79.371	0.000	79.371	78.599	79.257	81.197	83.991	Continuing	Continuing
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	464.596	54.971	70.383	79.371	0.000	79.371	78.599	79.257	81.197	83.991	Continuing	Continuing
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	464.596	54.971	70.383	79.371	0.000	79.371	78.599	79.257	81.197	83.991	Continuing	Continuing
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)												
Initial Spares (\$ in Millions)	-	0.489	1.147	-	-	-	-	-	-	-	-	1.636
Flyaway Unit Cost (\$ in Dollars)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Dollars)	-	-	-	-	-	-	-	-	-	-	-	-
Description:												
The Torpedo Support Equipment account procures various 4T and associated torpedo components required to ready weapons for Surface Ships, Submarines, Fixed Wing, and Rotary Wing to achieve and maintain a readiness posture sufficient to provide Anti-Submarine Warfare (ASW) and Anti-Surface Warfare (ASUW) readiness. The objective of this line is to provide the fleet with exercise weapons for conducting training maneuvers, which involve firing the torpedoes, and to maintain warshot inventories in an operational ready-for-issue (RFI) status in support of combat ready deployment by ASW forces. After a torpedo is fired during a training exercise, it is recovered and all expendable components such as batteries, cables, and igniters (as well as various accessories required for air-launched torpedoes) must be replaced. These items, as well as components such as exercise heads, fuel tanks, and exhaust valves may be used more than one time, but are worn out or lost in service are procured each fiscal year in quantities dependent upon the fleet training requirements and tempo of operations. The torpedoes requiring support are the MK-46 Mod 5A(SW); MK-48 Mods 6 (legacy and ACOT) and 7; and MK-54.												
[P5 / F8001 - LWT SUPPORT EQUIPMENT]: LIGHTWEIGHT (LWT) Support Equipment procures 4T components to support: (1) Exercise torpedo builds for Fleet Proficiency Surface Command Course and Tactical Development firings; (2) Warshot torpedo maintenance to sustain the fleet with an inventory of RFI warshot torpedoes as they come due for maintenance; (3) Assembly of new production MK-54 Warshots (4) Vertical Launch Anti-Submarine Rocket (ASROC) (VLA) Warshot and Exercise missile assemblies; and (5) Various air launch frame assemblies to support Fleet loadout. LWT 4T Components include the following: seawater batteries, pressure cylinders, thermal batteries, fuel shutoff valves, gas generator assemblies, igniters, containers, lanyard start assemblies, electrical initiators, suspension bands, VLA assembly kits, and propeller baffles.												
[P5 / F8002 LIGHTWEIGHT OTHER EQUIPMENT INVESTMENT]: Procures, installs, and supports Engineering Change Proposal/Ordnance Alteration (ECP/ORDALT) material required for support and test equipment and to retrofit torpedoes and 4T components to the latest RFI configuration.												
[P5 / F8830 LIGHTWEIGHT PRODUCTION ENGINEERING - IN HOUSE]: Provides for production support services at Naval Undersea Warfare Center (NUWC) Divisions Keyport/Newport (KPT/NPT) including program planning, funds management, budgeting, data management, acquisition engineering, software management, Integrated Logistics Support (ILS) and Government-Furnished Equipment (GFE) management, training equipment and configuration management.												
[P5 / F8840 - LIGHTWEIGHT QUALITY ASSURANCE]: Provides material costs associated with failure analysis and site investigations for torpedo system component failures, product quality assurance (QA), and critical unique firing tests.												
[P5 / F8860 - LIGHTWEIGHT ACCEPTANCE TEST AND EVALUATION]: Provides support for acceptance testing of LWT 4T components.												

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy		Date: February 2018
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 03: Torpedoes and Related Equipment / BSA 3: Support Equipment		P-1 Line Item Number / Title: 3301 / Torpedo Support Equipment
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: N/A		
<p>[P5 / F8900 - LIGHTWEIGHT PRODUCTION ENGINEERING - CONTRACTOR]: Provides for production support services including program planning, funds management, budgeting, and data management.</p> <p>[P5 - 2 / F8003 LIGHTWEIGHT RECOVERABLE EXERCISE TORPEDO (REXTORP)]: Provides for the procurement of MK-54 REXTORPs. REXTORPs provide a reusable exercise inert torpedo shape for fixed wing, rotary, and surface launched platforms in support of Fleet ASW training and readiness.</p> <p>[P5 - 3 / F8100 - HEAVYWEIGHT EXERCISE AND EXPENDABLES AND COMPONENT REPLACEMENT]: Procures 4T components to support: (1) exercise torpedo builds for fleet proficiency in the submarine and surface command course and tactical development firings; (2) warshot torpedo maintenance to sustain the fleet with an inventory of RFI warshot torpedoes as they come due for maintenance; and (3) assembly of modernized MK-48 Mod 7 components back to an All-Up-Round (AUR) configuration, either exercise or warshot. HWT 4T components include the following: wire coils, flex hoses, Otto Fuel, igniters, propellant, A-cables, A-cable inserts, A-cable receptacles, cylinder barrels, exercise fuel tanks, containers, and chamber and valves.</p> <p>[P5 - 3 / F8101 - HEAVYWEIGHT OTHER EQUIPMENT INVESTMENT]: Procure modernized Automatic Test Equipment (ATE) to perform full-up automatic comprehensive system testing of all Torpedo MK 48 variants in an All-Up-Round (AUR) torpedo configuration. Support numerous additional testing evolutions, including factory acceptance testing, proofing, periodic maintenance, group testing, and weapon turnaround/conversion activities.</p> <p>[P5 - 3 / F8843 - HEAVYWEIGHT QUALITY ASSURANCE]: Provides material costs associated with failure analysis and site investigations for torpedo system component failures and product QA and critical unique firing tests.</p> <p>[P5 - 3 / F8833 - HEAVYWEIGHT PRODUCTION ENGINEERING - IN HOUSE]: Provides for production support services at NUWC Divisions KPT/NPT including program planning, funds management, budgeting, data management, acquisition engineering, software management, ILS, and GFE management, training equipment, and configuration management.</p> <p>[P5 - 3 / F8863 - HEAVY WEIGHT ACCEPTANCE TEST AND EVALUATION]: Provides support for acceptance testing of HWT 4T components.</p> <p>[P5 - 3 / F8893 - HEAVYWEIGHT PRODUCTION ENGINEERING - CONTRACTOR]: Provides for production support services including program planning, funds management, budgeting, and data management.</p>		

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy								Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 03: Torpedoes and Related Equipment / BSA 3: Support Equipment						P-1 Line Item Number / Title: 3301 / Torpedo Support Equipment				
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A			Other Related Program Elements: N/A				
Line Item MDAP/MAIS Code: N/A										
Exhibits Schedule					Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	1 / Lightweight Torpedo Support Equipment	P-5a, P-21			- / 112.895	- / 22.351	- / 27.126	- / 35.205	- / 0.000	- / 35.205
P-5	2 / Recoverable Exercise Torpedo	P-5a			- / 12.706	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000
P-5	3 / Heavyweight Torpedo Support Equipment	P-5a, P-21			- / 338.995	- / 32.620	- / 43.257	- / 44.166	- / 0.000	- / 44.166
P-40	Total Gross/Weapon System Cost				- / 464.596	- / 54.971	- / 70.383	- / 79.371	- / 0.000	- / 79.371
*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.										
Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.										
<p>Justification: FY 2019 Program Changes:</p> <p>F8001: FY 2019 increase for procurement of items to include Electric Initiator, Gas Generator Assembly, Pressure Cylinder, Separator Nut Initiator required to support deep water firings to validate torpedo performance.</p> <p>F8002: FY 2019 increase to procure MK 54 Fleet Exercise Sections (FES) to support planned Surface, Air, and HAAWC Exercise firings.</p> <p>F8100: FY 2019 increase for procurement of WES Expansion Box (WEB) required to implement APB-5 software capability.</p> <p>The FY 2019 funding request was reduced by \$0.167 million to reflect the Department of Navy's effort to support the Office of Management and Budget directed reforms for Efficiency and Effectiveness that include a lean, accountable, more efficient government.</p>										

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Exhibit P-5, Cost Analysis: PB 2019 Navy												Date: February 2018						
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 03 / 3						P-1 Line Item Number / Title: 3301 / Torpedo Support Equipment						Item Number / Title [DODIC]: 1 / Lightweight Torpedo Support Equipment						
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:								
Resource Summary				Prior Years		FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total				
Procurement Quantity (Units in Each)				-		-		-		-		-		-				
Gross/Weapon System Cost (\$ in Millions)				112.895		22.351		27.126		35.205		0.000		35.205				
Less PY Advance Procurement (\$ in Millions)				-		-		-		-		-		-				
Net Procurement (P-1) (\$ in Millions)				112.895		22.351		27.126		35.205		0.000		35.205				
Plus CY Advance Procurement (\$ in Millions)				-		-		-		-		-		-				
Total Obligation Authority (\$ in Millions)				112.895		22.351		27.126		35.205		0.000		35.205				
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)																		
Initial Spares (\$ in Millions)				-		-		-		-		-		-				
Gross/Weapon System Unit Cost (\$ in Dollars)				-		-		-		-		-		-				
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
Hardware - F8001 - LWT SUPPORT EQUIPMENT Cost																		
Recurring Cost																		
1.1.1) F8001 MK46 Maintenance Kits	329.82	285	0.094	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
1.1.2) F8001 MK 54 Turnaround Kits (CWQB)(†)	138.91	1,375	0.191	98.52	400	0.039	105.46	450	0.047	104.53	400	0.042	-	-	0.000	104.53	400	0.042
1.1.3) F8001 MK54 Maintenance Kits (BWLW)(†)	511.11	135	0.069	423.97	300	0.127	453.81	300	0.136	449.79	200	0.090	-	-	0.000	449.79	200	0.090
1.1.4) F8001 MK54 Pinger Kits (BWLX)(†)	44.25	1,130	0.050	47.31	200	0.009	50.64	300	0.015	50.19	400	0.020	-	-	0.000	50.19	400	0.020
1.1.5) F8001 MK54 Lanyard Start Assembly (BWJA)(†)	1,868.38	2,135	3.989	1,594.23	200	0.319	1,673.94	300	0.502	1,691.32	400	0.677	-	-	0.000	1,691.32	400	0.677
1.1.6) F8001 Propeller Baffles (CWRJ)(†)	301.06	1,787	0.538	232.03	200	0.046	316.39	200	0.063	232.02	200	0.046	-	-	0.000	232.02	200	0.046
1.1.7) F8001 Thermal Battery (5W15)(†)	3,694.36	1,047	3.868	1,460.03	421	0.615	1,562.80	362	0.566	1,548.94	400	0.620	-	-	0.000	1,548.94	400	0.620
1.1.8) F8001 Battery, TDS (MK 54) (CWRP)(†)	182.31	1,300	0.237	177.16	325	0.058	189.63	250	0.047	187.95	400	0.075	-	-	0.000	187.95	400	0.075

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Exhibit P-5, Cost Analysis: PB 2019 Navy													Date: February 2018					
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 03 / 3							P-1 Line Item Number / Title: 3301 / Torpedo Support Equipment						Item Number / Title [DODIC]: 1 / Lightweight Torpedo Support Equipment					
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:								
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
1.1.9) F8001 Battery, Scuttle (MK54) (CWRQ) ^(†)	213.33	600	0.128	197.76	200	0.040	211.68	150	0.032	209.81	400	0.084	-	-	0.000	209.81	400	0.084
1.1.10) F8001 MK54 Igniter (TH04) ^(†)	775.88	1,700	1.319	725.75	350	0.254	791.92	350	0.277	769.94	400	0.308	-	-	0.000	769.94	400	0.308
1.1.11) F8001 MK54 BSS Bags ^(†)	24,125.00	16	0.386	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
1.1.12) F8001 Electric Initiator ^(†)	1,840.00	200	0.368	-	-	0.000	-	-	0.000	1,475.00	200	0.295	-	-	0.000	1,475.00	200	0.295
1.1.13) F8001 Generator Assembly, Gas ^(†)	15,535.71	392	6.090	10,073.80	194	1.954	-	-	0.000	10,676.67	310	3.310	-	-	0.000	10,676.67	310	3.310
1.1.14) F8001 Valve Assembly , Fuel Shutoff (3W41) ^(†)	807.66	1,175	0.949	-	-	0.000	755.94	240	0.181	748.89	400	0.300	-	-	0.000	748.89	400	0.300
1.1.15) F8001 Pressure Cylinder, Warshot (YW09) ^(†)	1,013.24	1,284	1.301	-	-	0.000	1,025.51	150	0.154	1,025.85	200	0.205	-	-	0.000	1,025.85	200	0.205
1.1.16) F8001 Pressure Cylinder, Exercise (TW58) ^(†)	1,150.57	963	1.108	-	-	0.000	-	-	0.000	1,133.33	240	0.272	-	-	0.000	1,133.33	240	0.272
1.1.17) F8001 MK46 Seawater Batteries	1,162.50	400	0.465	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
1.1.18) F8001 MK31 Stabilizer (QW47) ^(†)	2,328.33	600	1.397	1,775.03	500	0.888	1,863.78	300	0.559	1,882.50	400	0.753	-	-	0.000	1,882.50	400	0.753
1.1.19) F8001 VLA Reassembly Kits ^(†)	3,372.95	244	0.823	2,633.47	30	0.079	2,818.83	30	0.085	2,800.00	30	0.084	-	-	0.000	2,800.00	30	0.084
1.1.20) F8001 VLA Thermal Battery (CWEC) ^(†)	1,590.48	210	0.334	-	-	0.000	1,877.17	25	0.047	-	-	0.000	-	-	0.000	-	-	0.000
1.1.21) F8001 VLA Separator Nut Initiator (MT99) ^(†)	1,211.90	840	1.018	908.48	40	0.036	-	-	0.000	960.00	50	0.048	-	-	0.000	960.00	50	0.048
1.1.22) F8001 MK792/0 Universal AUR Container	-	-	1.781	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
1.1.23) F8001 Universal REXTORP Containers	46,757.14	70	3.273	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000

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Exhibit P-5, Cost Analysis: PB 2019 Navy												Date: February 2018						
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 03 / 3						P-1 Line Item Number / Title: 3301 / Torpedo Support Equipment						Item Number / Title [DODIC]: 1 / Lightweight Torpedo Support Equipment						
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:								
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
1.1.24) F8001 Sonobuoys ^(†)	2,232.64	288	0.643	2,594.77	48	0.125	2,666.42	48	0.128	2,740.21	48	0.132	-	-	0.000	2,740.21	48	0.132
1.1.25) F8001 SWT Target Procurement	-	-	0.331	-	-	0.072	-	-	0.075	-	-	0.075	-	-	0.000	-	-	0.075
1.1.26) F8001 VLA Telemetry Kits ^(†)	105,875.00	16	1.694	96,512.50	4	0.386	99,407.75	4	0.398	102,390.00	4	0.410	-	-	0.000	102,390.00	4	0.410
1.1.27) F8001 Suspension Bands (T107) ^(†)	2,602.86	350	0.911	2,209.00	702	1.551	2,428.58	400	0.971	2,344.44	400	0.938	-	-	0.000	2,344.44	400	0.938
1.1.28) F8001 Otto Fuel Reclamation	-	-	3.496	-	-	0.351	-	-	0.435	-	-	0.444	-	-	0.000	-	-	0.444
1.1.29) F8001 VLA Refurbishment Kits ^(†)	1,355K	11	14.900	683,181.82	11	7.515	426,939.39	33	14.089	435,575.76	33	14.374	-	-	0.000	435,575.76	33	14.374
1.1.30) F8001 ECP/ORDALT	-	-	0.023	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
1.1.31) F8001 4T Procurement Support	-	-	0.059	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
1.1.32) F8001 MK 28 Stabilizer (TA68) ^(†)	-	-	0.000	4,361.02	300	1.308	4,667.99	400	1.867	4,626.67	300	1.388	-	-	0.000	4,626.67	300	1.388
Subtotal: Recurring Cost	-	-	51.833	-	-	15.772	-	-	20.674	-	-	24.990	-	-	0.000	-	-	24.990
Subtotal: Hardware - F8001 - LWT SUPPORT EQUIPMENT Cost	-	-	51.833	-	-	15.772	-	-	20.674	-	-	24.990	-	-	0.000	-	-	24.990
Hardware - F8002 LIGHTWEIGHT OTHER EQUIPMENT INVESTMENT Cost																		
Recurring Cost																		
2.1.1) F8002 Lightweight Other Equipment Investment	-	-	27.536	-	-	2.447	-	-	2.034	-	-	5.715	-	-	0.000	-	-	5.715
Subtotal: Recurring Cost	-	-	27.536	-	-	2.447	-	-	2.034	-	-	5.715	-	-	0.000	-	-	5.715
Subtotal: Hardware - F8002 LIGHTWEIGHT OTHER EQUIPMENT INVESTMENT Cost	-	-	27.536	-	-	2.447	-	-	2.034	-	-	5.715	-	-	0.000	-	-	5.715
Support - F8830 LIGHTWEIGHT PRODUCTION ENGINEERING - IN HOUSE Cost																		
3.1) F8830 Lightweight Production Engineering (In House)	-	-	25.599	-	-	3.572	-	-	3.853	-	-	3.930	-	-	0.000	-	-	3.930
Subtotal: Support - F8830 LIGHTWEIGHT	-	-	25.599	-	-	3.572	-	-	3.853	-	-	3.930	-	-	0.000	-	-	3.930

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Exhibit P-5, Cost Analysis: PB 2019 Navy											Date: February 2018							
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 03 / 3						P-1 Line Item Number / Title: 3301 / Torpedo Support Equipment						Item Number / Title [DODIC]: 1 / Lightweight Torpedo Support Equipment						
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:								
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
PRODUCTION ENGINEERING - IN HOUSE Cost																		
Support - F8840 - LIGHTWEIGHT QUALITY ASSURANCE Cost																		
4.1) F8840 Lightweight Quality Assurance	-	-	0.297	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
Subtotal: Support - F8840 - LIGHTWEIGHT QUALITY ASSURANCE Cost	-	-	0.297	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
Support - F8860 - LIGHTWEIGHT ACCEPTANCE TEST AND EVALUATION Cost																		
5.1) F8860 Lightweight Acceptance Test and Evaluation	-	-	5.047	-	-	0.260	-	-	0.265	-	-	0.270	-	-	0.000	-	-	0.270
Subtotal: Support - F8860 - LIGHTWEIGHT ACCEPTANCE TEST AND EVALUATION Cost	-	-	5.047	-	-	0.260	-	-	0.265	-	-	0.270	-	-	0.000	-	-	0.270
Support - F8900 - LIGHTWEIGHT PRODUCTION ENGINEERING - CONTRACTOR Cost																		
6.1) F8900 Lightweight Production Engineering - Contractor	-	-	2.583	-	-	0.300	-	-	0.300	-	-	0.300	-	-	0.000	-	-	0.300
Subtotal: Support - F8900 - LIGHTWEIGHT PRODUCTION ENGINEERING - CONTRACTOR Cost	-	-	2.583	-	-	0.300	-	-	0.300	-	-	0.300	-	-	0.000	-	-	0.300
Gross/Weapon System Cost	-	-	112.895	-	-	22.351	-	-	27.126	-	-	35.205	-	-	0.000	-	-	35.205
Remarks: [Hardware] 4T material is consumed by the Fleet and IMAs each year, and must be replaced to maintain required inventory levels (2 year stock level). If funds are marked due to contract award delays, the next years funding is not adequate to replenish material consumed in the year prior, resulting in reduced inventory putting future torpedo builds at risk. All production deliveries, Fleet training, and Warshot maintenance builds depend on 4T material being readily available. (†) indicates the presence of a P-5a																		

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Exhibit P-5a, Procurement History and Planning: PB 2019 Navy									Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 03 / 3			P-1 Line Item Number / Title: 3301 / Torpedo Support Equipment						Item Number / Title [DODIC]: 1 / Lightweight Torpedo Support Equipment			
Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$)	Specs Avail Now?	Date Revision Available	RFP Issue Date
1.1.2) F8001 MK 54 Turnaround Kits (CWQB)		2015	Wair Products / Minneapolis, MN	C / FFP	NAVSUP, GLS	Nov 2015	Apr 2016	350	102.86	Y		May 2015
1.1.2) F8001 MK 54 Turnaround Kits (CWQB)		2016	Wair Products / Minneapolis, MN	C / FFP	NAVSUP, GLS	Jan 2016	Jun 2016	400	115.13	Y		
1.1.2) F8001 MK 54 Turnaround Kits (CWQB)		2017	Wair Products / Minneapolis, MN	C / FFP	NAVSUP, GLS	Sep 2017	Apr 2018	400	98.52	Y		
1.1.2) F8001 MK 54 Turnaround Kits (CWQB)		2018	TBD / NAVSUP, GLS	C / FFP	NAVSUP, GLS	Mar 2018	Sep 2018	450	105.46	Y		
1.1.2) F8001 MK 54 Turnaround Kits (CWQB)		2019	TBD / NAVSUP, GLS	C / CPFF	NAVSUP-WSS	Mar 2019	Sep 2019	400	104.53	Y		
1.1.3) F8001 MK54 Maintenance Kits (BWLW)		2015	Wair Products / Minneapolis, MN	C / FFP	NAVSUP, GLS	Nov 2015	Apr 2016	35	542.86	Y		May 2015
1.1.3) F8001 MK54 Maintenance Kits (BWLW)		2016	Wair Products / Minneapolis, MN	C / FFP	NAVSUP, GLS	May 2016	Nov 2016	35	571.43	Y		
1.1.3) F8001 MK54 Maintenance Kits (BWLW)		2017	Wair Products / Minneapolis, MN	C / FFP	NAVSUP, GLS	Sep 2017	Mar 2018	300	423.97	Y		
1.1.3) F8001 MK54 Maintenance Kits (BWLW)		2018	UNKNOWN / NAVSUP GLS	C / FFP	NAVSUP, GLS	Mar 2018	Sep 2018	300	453.81	Y		
1.1.3) F8001 MK54 Maintenance Kits (BWLW)		2019	UNKNOWN / NAVSUP GLS	C / TBD	NAVSUP-WSS	Mar 2019	Sep 2019	200	449.79	Y		
1.1.4) F8001 MK54 Pinger Kits (BWLX)		2015	Wair Products / Minneapolis, MN	C / FFP	NAVSUP, GLS	Nov 2015	May 2016	320	35.18	Y		May 2015
1.1.4) F8001 MK54 Pinger Kits (BWLX)		2016	Wair Products / Minneapolis, MN	C / FFP	NAVSUP, GLS	Jan 2016	Jun 2016	320	37.50	Y		
1.1.4) F8001 MK54 Pinger Kits (BWLX)		2017	Wair Products / Minneapolis, MN	C / FFP	NAVSUP, GLS	Sep 2017	Mar 2018	200	47.31	Y		
1.1.4) F8001 MK54 Pinger Kits (BWLX)		2018	UNKNOWN / NAVSUP, GLS	C / FFP	NAVSUP, GLS	Mar 2018	Aug 2018	300	50.64	Y		
1.1.4) F8001 MK54 Pinger Kits (BWLX)		2019	UNKNOWN / NAVSUP, GLS	C / TBD	NAVSUP-WSS	Mar 2019	Aug 2019	400	50.19	Y		
1.1.5) F8001 MK54 Lanyard Start Assembly (BWJA)		2015	EAGLEPICHER TECH / JOPLIN, MO	C / FFP	NAVSUP, GLS	Feb 2015	Aug 2015	450	1,622.22	Y		Apr 2014
1.1.5) F8001 MK54 Lanyard Start Assembly (BWJA)		2016	EAGLEPICHER TECH / JOPLIN, MO	C / FFP	NAVSUP, GLS	Nov 2015	May 2016	550	1,703.64	Y		
1.1.5) F8001 MK54 Lanyard Start Assembly (BWJA)		2017	EAGLEPICHER TECH / JOPLIN, MO	C / FFP	NAVSUP, GLS	Feb 2017	Aug 2017	200	1,594.23	Y		
1.1.5) F8001 MK54 Lanyard Start Assembly (BWJA)		2018	EAGLEPICHER TECH / JOPLIN, MO	C / FFP	NAVSUP, GLS	Mar 2018	Sep 2018	300	1,673.94	Y		

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Exhibit P-5a, Procurement History and Planning: PB 2019 Navy									Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 03 / 3			P-1 Line Item Number / Title: 3301 / Torpedo Support Equipment						Item Number / Title [DODIC]: 1 / Lightweight Torpedo Support Equipment			
Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$)	Specs Avail Now?	Date Revision Available	RFP Issue Date
1.1.5) F8001 MK54 Lanyard Start Assembly (BWJA)		2019	EAGLEPICHER TECH / JOPLIN, MO	C / TBD	NAVSUP, GLS	Mar 2019	Sep 2019	400	1,691.32	Y		
1.1.6) F8001 Propeller Baffles (CWRJ)		2015	PRN ASSOCIATES / INDIANAPOLIS, IN	C / FFP	NAVSUP, GLS	Jun 2015	Dec 2015	200	275.00	Y		Apr 2015
1.1.6) F8001 Propeller Baffles (CWRJ)		2016	PRN ASSOCIATES / INDIANAPOLIS, IN	C / FFP	NAVSUP, GLS	Jul 2016	Jan 2017	300	290.00	Y		Nov 2015
1.1.6) F8001 Propeller Baffles (CWRJ)		2017	Electro Mechanical Specialists / Norwich, CT	C / FFP	NAVSUP, GLS	Jun 2017	Jan 2018	200	232.03	Y		
1.1.6) F8001 Propeller Baffles (CWRJ)		2018	UNKNOWN / NAVSUP, GLS	C / FFP	NAVSUP, GLS	Jul 2018	Jan 2019	200	316.39	Y		
1.1.6) F8001 Propeller Baffles (CWRJ)		2019	UNKNOWN / NAVSUP, GLS	C / TBD	NAVSUP, GLS	Jul 2019	Jan 2020	200	232.02	Y		
1.1.7) F8001 Thermal Battery (5W15)		2015	ADVANCED THERMAL BATTERIES / NAVSUP, LOC	C / FFP	NAVSUP, GLS	Nov 2015	May 2016	235	1,561.70	Y		Apr 2015
1.1.7) F8001 Thermal Battery (5W15)		2017	UNKNOWN / NAVSUP, GLS	C / FFP	NAVSUP, GLS	Sep 2017	Feb 2018	421	1,460.03	Y		
1.1.7) F8001 Thermal Battery (5W15)		2018	UNKNOWN / NAVSUP, GLS	C / FFP	NAVSUP, GLS	Mar 2018	Aug 2018	362	1,562.80	Y		
1.1.7) F8001 Thermal Battery (5W15)		2019	UNKNOWN / NAVSUP, GLS	C / TBD	NAVSUP, GLS	Mar 2019	Aug 2019	400	1,548.94	Y		
1.1.8) F8001 Battery, TDS (MK 54) (CWRP)		2015	EUR-PAC CORP / WATERBURY, CT	C / FFP	NAVSUP, GLS	Mar 2015	Sep 2015	300	186.67	Y		Oct 2014
1.1.8) F8001 Battery, TDS (MK 54) (CWRP)		2016	EUR-PAC CORP / WATERBURY, CT	C / FFP	NAVSUP, GLS	May 2016	Nov 2016	300	196.67	Y		Nov 2015
1.1.8) F8001 Battery, TDS (MK 54) (CWRP)		2017	EUR-PAC CORP / WATERBURY, CT	C / FFP	NAVSUP, GLS	Sep 2017	Mar 2018	325	177.16	Y		
1.1.8) F8001 Battery, TDS (MK 54) (CWRP)		2018	UNKNOWN / NAVSUP GLS	C / FFP	NAVSUP, GLS	Mar 2018	Aug 2018	250	189.63	Y		
1.1.8) F8001 Battery, TDS (MK 54) (CWRP)		2019	UNKNOWN / NAVSUP, GLS	C / CPFF	NAVSUP, GLS	Mar 2019	Sep 2019	400	187.95	Y		
1.1.9) F8001 Battery, Scuttle (MK54) (CWRQ)		2015	EUR-PAC CORP / WATERBURY, CT	C / FFP	NAVSUP, GLS	Mar 2015	Sep 2015	150	220.00	Y		Oct 2014
1.1.9) F8001 Battery, Scuttle (MK54) (CWRQ)		2016	EUR-PAC CORP - FY-16 / WATERBURY, CT	C / FFP	NAVSUP, GLS	May 2016	Dec 2016	150	226.67	Y		Dec 2015
1.1.9) F8001 Battery, Scuttle (MK54) (CWRQ)		2017	EUR-PAC CORP / WATERBURY, CT	C / FFP	NAVSUP, GLS	Sep 2017	Mar 2018	200	197.76	Y		
1.1.9) F8001 Battery, Scuttle (MK54) (CWRQ)		2018	UNKNOWN / NAVSUP, GLS	C / FFP	NAVSUP, GLS	Mar 2018	Sep 2018	150	211.68	Y		

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Exhibit P-5a, Procurement History and Planning: PB 2019 Navy									Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 03 / 3			P-1 Line Item Number / Title: 3301 / Torpedo Support Equipment						Item Number / Title [DODIC]: 1 / Lightweight Torpedo Support Equipment			
Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$)	Specs Avail Now?	Date Revision Available	RFP Issue Date
1.1.9) F8001 Battery, Scuttle (MK54) (CWRQ)		2019	UNKNOWN / NAVSUP, GLS	C / FFP	NAVSUP, GLS	Mar 2019	Sep 2019	400	209.81	Y		
1.1.10) F8001 MK54 Igniter (TH04)		2015	PACIFIC SCIENTIFIC ENERGETIC MATERIALS / HOLLISTER, CA	C / FFP	NAVSUP, GLS	Sep 2015	Mar 2016	400	552.50	Y		Jan 2015
1.1.10) F8001 MK54 Igniter (TH04)		2017	PACIFIC SCIENTIFIC ENERGETIC MATERIALS / HOLLISTER, CA	C / FFP	NAVSUP, GLS	Mar 2017	Sep 2017	350	725.75	Y		
1.1.10) F8001 MK54 Igniter (TH04)		2018	UNKNOWN / NAVSUP GLS	C / FFP	NAVSUP, GLS	Mar 2018	Sep 2018	350	791.92	Y		
1.1.10) F8001 MK54 Igniter (TH04)		2019	UNKNOWN / NAVSUP GLS	C / FFP	NAVSUP, GLS	Mar 2019	Sep 2019	400	769.94	Y		
1.1.11) F8001 MK54 BSS Bags		2015	NUWC KEYPORT / KEYPORT WASHINGTON	C / FFP	NUWC, KEYPORT	Mar 2015	Jan 2016	6	27,666.67	Y		
1.1.12) F8001 Electric Initiator		2019	TBD / TBD	C / FFP	NAVSUP, GLS	Mar 2019	Sep 2019	200	1,475.00	Y		
1.1.13) F8001 Generator Assembly, Gas		2017	GEN DYNAMICS, RENTON, WA / NUWC, KEYPORT	C / FFP	NAVSUP, GLS	Oct 2016	Aug 2017	194	10,073.80	Y		
1.1.13) F8001 Generator Assembly, Gas		2019	TBD / TBD	C / FFP	NAVSUP, GLS	Mar 2019	Sep 2019	310	10,676.67	Y		
1.1.14) F8001 Valve Assembly , Fuel Shutoff (3W41)		2015	GENERAL DYNAMICS FY15 / VIRGINIA	C / FFP	NAVSUP, GLS	Aug 2015	Mar 2016	325	711.42	Y		Apr 2015
1.1.14) F8001 Valve Assembly , Fuel Shutoff (3W41)		2016	GENERAL DYNAMICS - 2 / VIRGINIA	C / FFP	NAVSUP, GLS	Jan 2016	Jun 2016	300	746.67	Y		Oct 2015
1.1.14) F8001 Valve Assembly , Fuel Shutoff (3W41)		2018	UNKNOWN / NAVSUP, GLS	C / FFP	NAVSUP, GLS	Mar 2018	Aug 2018	240	755.94	Y		
1.1.14) F8001 Valve Assembly , Fuel Shutoff (3W41)		2019	UNKNOWN / NAVSUP, GLS	C / FFP	NAVSUP, GLS	Mar 2019	Aug 2019	400	748.89	Y		
1.1.15) F8001 Pressure Cylinder, Warshot (YW09)		2015	Cartridge Actuated Devices/ NAVSUP, GLS / Fairfield, NJ	C / FFP	NAVSUP, GLS	Nov 2015	May 2016	350	937.75	Y		
1.1.15) F8001 Pressure Cylinder, Warshot (YW09)		2018	UNKNOWN / NAVSUP, GLS	C / FFP	NAVSUP, GLS	Mar 2018	Aug 2018	150	1,025.51	Y		
1.1.15) F8001 Pressure Cylinder, Warshot (YW09)		2019	UNKNOWN / NAVSUP, GLS	C / FFP	NAVSUP, GLS	Mar 2019	Aug 2019	200	1,025.85	Y		
1.1.16) F8001 Pressure Cylinder, Exercise (TW58)		2015	Cartridge Actuated Devices FY15 / Fairfield, NJ	C / FFP	NAVSUP, GLS	Nov 2015	Jun 2016	200	1,075.00	Y		
1.1.16) F8001 Pressure Cylinder, Exercise (TW58)		2016	Cartridge Actuated Devices FY16 / Fairfield, NJ	C / FFP	NAVSUP, GLS	Jan 2016	Jun 2016	200	1,125.00	Y		
1.1.16) F8001 Pressure Cylinder, Exercise (TW58)		2019	UNKNOWN / NAVSUP, GLS	C / FFP	NAVSUP, GLS	Mar 2019	Aug 2019	240	1,133.33	Y		
1.1.18) F8001 MK31 Stabilizer (QW47)		2015	UNITED TEREX INC, NOR PA / FAIRVIEW VILLAGE, PA/NUWC, KEYPORT	C / FFP	NAVSUP, GLS	Jul 2015	Jan 2016	200	1,940.00	Y		Jan 2015

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Exhibit P-5a, Procurement History and Planning: PB 2019 Navy									Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 03 / 3				P-1 Line Item Number / Title: 3301 / Torpedo Support Equipment					Item Number / Title [DODIC]: 1 / Lightweight Torpedo Support Equipment			
Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$)	Specs Avail Now?	Date Revision Available	RFP Issue Date
1.1.18) F8001 MK31 Stabilizer (QW47)		2017	UNITED TEREX INC, NOR PA / FAIRVIEW VILLAGE, PA/NUWC, KEYPORT	C / FFP	NAVSUP, GLS	Mar 2017	Sep 2017	500	1,775.03	Y		
1.1.18) F8001 MK31 Stabilizer (QW47)		2018	UNKNOWN / NAVSUP, GLS	C / FFP	NAVSUP, GLS	Mar 2018	Aug 2018	300	1,863.78	Y		
1.1.18) F8001 MK31 Stabilizer (QW47)		2019	UNKNOWN / NAVSUP, GLS	C / FFP	NAVSUP, GLS	Mar 2019	Aug 2019	400	1,882.50	Y		
1.1.19) F8001 VLA Reassembly Kits		2015	Sunbelt Design & Developement / NAVSUP, GLS	C / FFP	NAVSUP, GLS	Apr 2015	Oct 2015	45	1,488.89	Y		Jan 2015
1.1.19) F8001 VLA Reassembly Kits		2016	Sunbelt Design & Developement FY16 / NAVSUP, GLS	C / FFP	NAVSUP, GLS	Jan 2016	Jun 2016	45	1,555.56	Y		
1.1.19) F8001 VLA Reassembly Kits		2017	Sunbelt Design & Developement / NAVSUP, GLS	C / FFP	NAVSUP, GLS	Sep 2017	Mar 2018	30	2,633.47	Y		
1.1.19) F8001 VLA Reassembly Kits		2018	UNKNOWN / NAVSUP, GLS	C / FFP	NAVSUP, GLS	Mar 2018	Aug 2018	30	2,818.83	Y		
1.1.19) F8001 VLA Reassembly Kits		2019	UNKNOWN / NAVSUP, GLS	C / FFP	NAVSUP, GLS	Mar 2019	Aug 2019	30	2,800.00	Y		
1.1.20) F8001 VLA Thermal Battery (CWEC)		2015	EAGLEPICHER TECH / JOPLIN, MO	C / FFP	NAVSUP, GLS	Jul 2015	Jan 2016	50	1,621.58	Y		Jan 2015
1.1.20) F8001 VLA Thermal Battery (CWEC)		2016	EAGLEPICHER TECH / JOPLIN, MO	C / FFP	NAVSUP, GLS	Nov 2015	Nov 2016	60	1,700.00	Y		
1.1.20) F8001 VLA Thermal Battery (CWEC)		2018	New MFG - TBD / New MFG - Loc	C / FFP	NAVSUP, GLS	Mar 2018	Aug 2018	25	1,877.17	Y		
1.1.21) F8001 VLA Separator Nut Initiator (MT99)		2015	Pacific Scientific / Chandler, AZ	C / FFP	NAVSUP, GLS	Sep 2015	Mar 2016	150	1,321.90	Y		Jan 2015
1.1.21) F8001 VLA Separator Nut Initiator (MT99)		2016	Pacific Scientific / Chandler, AZ	C / FFP	NAVSUP, GLS	Jan 2016	Jul 2016	150	1,386.67	Y		
1.1.21) F8001 VLA Separator Nut Initiator (MT99)		2017	UNKNOWN / NAVSUP, GLS	C / FFP	NAVSUP, GLS	Jan 2018	Jun 2018	40	908.48	Y		
1.1.21) F8001 VLA Separator Nut Initiator (MT99)		2019	UNKNOWN / NAVSUP, GLS	C / FFP	NAVSUP, GLS	Mar 2019	Aug 2019	50	960.00	Y		
1.1.24) F8001 Sonobuoys		2015	UNDERSEA SENSOR SYSTEMS INC / COLUMBIA CITY, IN	C / FFP	NUWC, KEYPORT	Jun 2015	Dec 2015	48	2,251.00	Y		Nov 2014
1.1.24) F8001 Sonobuoys		2016	UNDERSEA SENSOR SYSTEMS INC / COLUMBIA CITY, IN	C / FFP	NUWC, KEYPORT	Jan 2016	Jul 2016	48	2,354.17	Y		
1.1.24) F8001 Sonobuoys		2017	UNDERSEA SENSOR SYSTEMS INC / COLUMBIA CITY, IN	C / FFP	NUWC, KEYPORT	Jan 2017	Jul 2017	48	2,594.77	Y		
1.1.24) F8001 Sonobuoys		2018	UNDERSEA SENSOR SYSTEMS INC / COLUMBIA CITY, IN	C / FFP	NUWC, KEYPORT	Mar 2018	Sep 2018	48	2,666.42	Y		

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Exhibit P-5a, Procurement History and Planning: PB 2019 Navy								Date: February 2018				
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 03 / 3			P-1 Line Item Number / Title: 3301 / Torpedo Support Equipment					Item Number / Title [DODIC]: 1 / Lightweight Torpedo Support Equipment				
Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$)	Specs Avail Now?	Date Revision Available	RFP Issue Date
1.1.24) F8001 Sonobuoys		2019	UNKNOWN / TBD	C / FFP	NAVSUP, GLS	Mar 2019	Sep 2019	48	2,740.21	Y		
1.1.26) F8001 VLA Telemetry Kits		2015	VARIOUS / CHINA LAKE	C / FFP	CHINA LAKE	Jun 2015	Dec 2015	2	91,000.00	Y		Dec 2014
1.1.26) F8001 VLA Telemetry Kits		2016	VARIOUS / CHINA LAKE	C / FFP	CHINA LAKE	Jan 2016	Jul 2016	4	93,750.00	Y		Jan 2016
1.1.26) F8001 VLA Telemetry Kits		2017	VARIOUS / CHINA LAKE	C / FFP	CHINA LAKE	Nov 2017	May 2018	4	96,512.50	Y		
1.1.26) F8001 VLA Telemetry Kits		2018	VARIOUS / CHINA LAKE	C / FFP	CHINA LAKE	Mar 2018	Sep 2018	4	99,407.75	Y		
1.1.26) F8001 VLA Telemetry Kits		2019	VARIOUS / CHINA LAKE	C / FFP	CHINA LAKE	Mar 2019	Sep 2019	4	102,390.00	Y		
1.1.27) F8001 Suspension Bands (T107)		2016	United Terex Inc., Fairfield Village, PA / New MFG - Loc	C / FFP	NAVSUP, GLS	Jul 2016	Dec 2016	350	2,602.86	Y		Dec 2015
1.1.27) F8001 Suspension Bands (T107)		2017	United Terex Inc., Fairfield Village, PA / New MFG - Loc	C / FFP	NAVSUP, GLS	Jan 2017	Jun 2017	702	2,209.00	Y		
1.1.27) F8001 Suspension Bands (T107)		2018	UNKNOWN / NAVSUP, GLS	C / FFP	NAVSUP, GLS	Mar 2018	Aug 2018	400	2,428.58	Y		
1.1.27) F8001 Suspension Bands (T107)		2019	UNKNOWN / NAVSUP, GLS	C / FFP	NAVSUP, GLS	Mar 2019	Aug 2019	400	2,344.44	Y		
1.1.29) F8001 VLA Refurbishment Kits ^(†)		2016	LOCKHEED MARTIN - FY16 / Akron, OH	C / BOA	NAVSUP, GLS	Sep 2016	Mar 2018	11	690,909.09	Y		
1.1.29) F8001 VLA Refurbishment Kits ^(†)		2017	LOCKHEED MARTIN - FY17 / Akron, OH	C / BOA	NAVSUP, GLS	Jun 2017	Jul 2019	11	683,181.82	Y		
1.1.29) F8001 VLA Refurbishment Kits ^(†)		2018	LOCKHEED MARTIN / Akron, OH	C / BOA	NAVSUP, GLS	May 2018	Jun 2020	33	426,939.39	Y		
1.1.29) F8001 VLA Refurbishment Kits ^(†)		2019	LOCKHEED MARTIN / Akron, OH	C / BOA	NAVSUP	May 2019	May 2019	33	435,575.76	Y		
1.1.32) F8001 MK 28 Stabilizer (TA68)		2017	UNKNOWN / NAVSUP, GLS	C / FFP	NAVSUP, GLS	Sep 2017	Feb 2018	300	4,361.02	Y		
1.1.32) F8001 MK 28 Stabilizer (TA68)		2018	UNKNOWN / NAVSUP, GLS	C / FFP	NAVSUP, GLS	May 2018	Nov 2018	400	4,667.99	Y		
1.1.32) F8001 MK 28 Stabilizer (TA68)		2019	UNKNOWN / NAVSUP, GLS	C / FFP	NAVSUP, GLS	Mar 2019	Sep 2019	300	4,626.67	Y		

^(†) indicates the presence of a P-21

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Exhibit P-21, Production Schedule: PB 2019 Navy																			Date: February 2018														
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 03 / 3							P-1 Line Item Number / Title: 3301 / Torpedo Support Equipment												Item Number / Title [DODIC]: 1 / Lightweight Torpedo Support Equipment														
Cost Elements (Units in Each)							Fiscal Year 2015												Fiscal Year 2016												BALANCE		
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2014	BAL DUE AS OF 1 OCT	Calendar Year 2015												Calendar Year 2016														
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP			
1.1.29) F8001 VLA Refurbishment Kits																																	
	1	2016	NAVY	11	0	11																										A -	11
	2	2017	NAVY	11	0	11																											11
	3	2018	NAVY	33	0	33																											33
	3	2019	NAVY	33	0	33																											33
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP			

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Exhibit P-21, Production Schedule: PB 2019 Navy																				Date: February 2018													
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 03 / 3										P-1 Line Item Number / Title: 3301 / Torpedo Support Equipment										Item Number / Title [DODIC]: 1 / Lightweight Torpedo Support Equipment													
Cost Elements <i>(Units in Each)</i>							Fiscal Year 2017													Fiscal Year 2018													BALANCE
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2016	BAL DUE AS OF 1 OCT	Calendar Year 2017													Calendar Year 2018													
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP			
1.1.29) F8001 VLA Refurbishment Kits																																	
	1	2016	NAVY	11	0	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11						0	
	2	2017	NAVY	11	0	11									A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	
	3	2018	NAVY	33	0	33																						A -	-	-	-	-	33
	3	2019	NAVY	33	0	33																										33	
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP			

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Exhibit P-21, Production Schedule: PB 2019 Navy																				Date: February 2018															
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 03 / 3							P-1 Line Item Number / Title: 3301 / Torpedo Support Equipment													Item Number / Title [DODIC]: 1 / Lightweight Torpedo Support Equipment															
Cost Elements <i>(Units in Each)</i>							Fiscal Year 2019													Fiscal Year 2020													BALANCE		
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2018	BAL DUE AS OF 1 OCT	Calendar Year 2019													Calendar Year 2020															
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP					
1.1.29) F8001 VLA Refurbishment Kits																																			
	1	2016	NAVY	11	11	0																												0	
	2	2017	NAVY	11	0	11	-	-	-	-	-	-	-	-	-	11																			0
	3	2018	NAVY	33	0	33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	33			0			
	3	2019	NAVY	33	0	33								A33																					0
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP					

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Exhibit P-21, Production Schedule: PB 2019 Navy									Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 03 / 3					P-1 Line Item Number / Title: 3301 / Torpedo Support Equipment				Item Number / Title [DODIC]: 1 / Lightweight Torpedo Support Equipment			
MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Year)			Procurement Leadtime (Months)							
		MSR For 2019	1-8-5 For 2019	MAX For 2019	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	LOCKHEED MARTIN - FY16 - Akron, OH	11	22	33	0	0	18	18	0	0	0	0
2	LOCKHEED MARTIN - FY17 - Akron, OH	11	22	33	0	0	25	25	0	0	0	0
3	LOCKHEED MARTIN - Akron, OH	11	22	33	0	0	25	25	0	0	0	0

"A" in the Delivery Schedule indicates the Contract Award Date.

Note: Due to space limitations, quantities in the Exhibit P-21 delivery calendar are truncated and rounded based on the maximum quantity in the calendar as follows. If the maximum quantity is less than or equal to than 9,999, all quantities are shown as each. If the maximum quantity is between 10,000 and 999,999 all quantities are shown in thousands. If the maximum quantity is between 1,000,000 and 999,999,999 all quantities are shown in millions (rounded to the nearest thousand). If the maximum quantity is equal or greater than 1,000,000,000 all quantities are shown in billions (rounded to the nearest million).

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Exhibit P-5, Cost Analysis: PB 2019 Navy												Date: February 2018						
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 03 / 3						P-1 Line Item Number / Title: 3301 / Torpedo Support Equipment							Item Number / Title [DODIC]: 2 / Recoverable Exercise Torpedo					
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:								
Resource Summary				Prior Years		FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total				
Procurement Quantity <i>(Units in Each)</i>				-		-		-		-		-		-				
Gross/Weapon System Cost <i>(\$ in Millions)</i>				12.706		0.000		0.000		0.000		0.000		0.000				
Less PY Advance Procurement <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Net Procurement (P-1) <i>(\$ in Millions)</i>				12.706		0.000		0.000		0.000		0.000		0.000				
Plus CY Advance Procurement <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Total Obligation Authority <i>(\$ in Millions)</i>				12.706		0.000		0.000		0.000		0.000		0.000				
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)																		
Initial Spares <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Gross/Weapon System Unit Cost <i>(\$ in Dollars)</i>				-		-		-		-		-		-				
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
Hardware - F8003 LIGHTWEIGHT RECOVERABLE EXERCISE TORPEDO (REXTORP) Cost																		
Recurring Cost																		
1.1.1) Lightweight REXTORP Bodies / Assembly & Test ^(†)	46,794.24	243	11.371	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
1.1.2) Lightweight REXTORP Fire Control Modules / Assembly & Test ^(†)	4,959.02	122	0.605	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
1.1.3) Lightweight REXTORP Containers / Assembly & Test	10,428.57	70	0.730	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
Subtotal: Recurring Cost	-	-	12.706	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
Subtotal: Hardware - F8003 LIGHTWEIGHT RECOVERABLE EXERCISE TORPEDO (REXTORP) Cost	-	-	12.706	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
Gross/Weapon System Cost	-	-	12.706	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
(†) indicates the presence of a P-5a																		

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Exhibit P-5a, Procurement History and Planning: PB 2019 Navy									Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 03 / 3			P-1 Line Item Number / Title: 3301 / Torpedo Support Equipment					Item Number / Title [DODIC]: 2 / Recoverable Exercise Torpedo				
Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$)	Specs Avail Now?	Date Revision Available	RFP Issue Date
1.1.1) Lightweight REXTORP Bodies / Assembly & Test		2015	B-K MFG, ARAB AL / NUWC, KEYPORT	C / FFP	NUWC, KEYPORT	Jan 2015	Jun 2015	40	23,925.00	Y		
1.1.2) Lightweight REXTORP Fire Control Modules / Assembly & Test		2015	B-K MFG, ARAB AL / NUWC, KEYPORT	C / FFP	NUWC, KEYPORT	Jun 2015	Nov 2015	40	5,250.00	Y		

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Exhibit P-5, Cost Analysis: PB 2019 Navy												Date: February 2018						
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 03 / 3						P-1 Line Item Number / Title: 3301 / Torpedo Support Equipment						Item Number / Title [DODIC]: 3 / Heavyweight Torpedo Support Equipment						
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:								
Resource Summary				Prior Years		FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total				
Procurement Quantity (Units in Each)				-		-		-		-		-		-				
Gross/Weapon System Cost (\$ in Millions)				338.995		32.620		43.257		44.166		0.000		44.166				
Less PY Advance Procurement (\$ in Millions)				-		-		-		-		-		-				
Net Procurement (P-1) (\$ in Millions)				338.995		32.620		43.257		44.166		0.000		44.166				
Plus CY Advance Procurement (\$ in Millions)				-		-		-		-		-		-				
Total Obligation Authority (\$ in Millions)				338.995		32.620		43.257		44.166		0.000		44.166				
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)																		
Initial Spares (\$ in Millions)				-		-		-		-		-		-				
Gross/Weapon System Unit Cost (\$ in Dollars)				-		-		-		-		-		-				
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
Hardware - F8100 - HEAVYWEIGHT EXERCISE AND EXPENDABLES AND COMPONENT REPLACEMENT Cost																		
Recurring Cost																		
1.1.1) F8100 Guidance and Control Assembly ^(†)	311,829.79	47	14.656	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
1.1.2) F8100 MK 62-1 A-Cable (CWFP) ^(†)	7,043.24	370	2.606	-	-	0.000	3,870.88	50	0.194	3,946.67	100	0.395	-	-	0.000	3,946.67	100	0.395
1.1.3) F8100 MK 62-1 A-Cable Insert (CWLE) ^(†)	262.94	5,450	1.433	-	-	0.000	-	-	0.000	266.67	100	0.027	-	-	0.000	266.67	100	0.027
1.1.4) F8100 MK 62-1 A-Cable Receptacle (CWLD) ^(†)	-	-	3.078	-	-	0.000	-	-	0.000	1,960.00	100	0.196	-	-	0.000	1,960.00	100	0.196
1.1.5) F8100 Flex Hose (Improved) (CWQC) ^(†)	7,467.94	1,310	9.783	2,348.83	360	0.846	2,466.27	400	0.987	2,515.00	400	1.006	-	-	0.000	2,515.00	400	1.006
1.1.6) F8100 Strong Flex Hose (WW97) ^(†)	1,903.03	330	0.628	1,420.51	150	0.213	1,491.53	150	0.224	1,520.00	200	0.304	-	-	0.000	1,520.00	200	0.304
1.1.7) F8100 Igniter (TH01) ^(†)	1,023.30	2,962	3.031	678.37	504	0.342	712.29	504	0.359	725.93	600	0.436	-	-	0.000	725.93	600	0.436
1.1.8) F8100 Propellant (WW98) ^(†)	2,930.86	3,500	10.258	-	-	0.000	1,810.71	1,000	1.811	1,846.00	400	0.738	-	-	0.000	1,846.00	400	0.738

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Exhibit P-5, Cost Analysis: PB 2019 Navy													Date: February 2018					
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 03 / 3							P-1 Line Item Number / Title: 3301 / Torpedo Support Equipment						Item Number / Title [DODIC]: 3 / Heavyweight Torpedo Support Equipment					
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:								
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
1.1.9) F8100 Scuttle Valve (SW94) ^(†)	852.38	210	0.179	999.40	84	0.084	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
1.1.10) F8100 Sub Wire Coil (TW92) ^(†)	8,394.65	3,175	26.653	3,806.19	500	1.903	3,996.50	625	2.498	4,076.80	600	2.446	-	-	0.000	4,076.80	600	2.446
1.1.11) F8100 Torpedo Wire Coil (SW83) ^(†)	19,461.60	1,250	24.327	-	-	0.000	6,191.81	550	3.405	6,316.00	600	3.790	-	-	0.000	6,316.00	600	3.790
1.1.12) F8100 OTTO Fuel - Moser Plant Warm	-	-	7.600	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
1.1.13) F8100 Otto Fuel	-	-	25.427	-	-	6.653	-	-	6.886	-	-	7.024	-	-	0.000	-	-	7.024
1.1.14) F8100 Crossover Batteries (CWRG) ^(†)	3,641.15	2,600	9.467	2,566.74	700	1.797	2,695.08	625	1.684	2,748.80	600	1.649	-	-	0.000	2,748.80	600	1.649
1.1.15) F8100 Sonobuoys ^(†)	2,185.19	486	1.062	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
1.1.16) F8100 A/B Dampening Material	-	-	1.016	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
1.1.17) F8100 SWT Target Procurement	-	-	0.276	-	-	0.062	-	-	0.062	-	-	0.063	-	-	0.000	-	-	0.063
1.1.18) F8100 ORDALTS	-	-	2.664	-	-	0.409	-	-	0.421	-	-	0.430	-	-	0.000	-	-	0.430
1.1.19) F8100 Deep Proofer Kits 1 ^(†)	4,236.84	570	2.415	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
1.1.20) F8100 Deep Proofer Kits 2 ^(†)	4,462.22	450	2.008	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
1.1.21) F8100 Short Wire Coils (CWRT) ^(†)	3,415.00	1,200	4.098	5,692.50	400	2.277	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
1.1.22) F8100 Replacement Nose Arrays ^(†)	229,520.00	50	11.476	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
1.1.23) F8100 WES Expansion Box ^(†)	-	-	0.000	-	-	0.000	-	-	0.000	14,534.78	230	3.343	-	-	0.000	14,534.78	230	3.343
Subtotal: Recurring Cost	-	-	164.141	-	-	14.586	-	-	18.531	-	-	21.847	-	-	0.000	-	-	21.847
Subtotal: Hardware - F8100 - HEAVYWEIGHT EXERCISE AND EXPENDABLES	-	-	164.141	-	-	14.586	-	-	18.531	-	-	21.847	-	-	0.000	-	-	21.847

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Exhibit P-5, Cost Analysis: PB 2019 Navy												Date: February 2018						
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 03 / 3						P-1 Line Item Number / Title: 3301 / Torpedo Support Equipment						Item Number / Title [DODIC]: 3 / Heavyweight Torpedo Support Equipment						
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:								
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
AND COMPONENT REPLACEMENT Cost																		
Hardware - F8101 - HEAVYWEIGHT OTHER EQUIPMENT INVESTMENT Cost																		
Recurring Cost																		
2.1.1) Heavyweight Other Equipment Investment	-	-	114.634	-	-	10.850	-	-	17.202	-	-	14.662	-	-	0.000	-	-	14.662
Subtotal: Recurring Cost	-	-	114.634	-	-	10.850	-	-	17.202	-	-	14.662	-	-	0.000	-	-	14.662
Subtotal: Hardware - F8101 - HEAVYWEIGHT OTHER EQUIPMENT INVESTMENT Cost	-	-	114.634	-	-	10.850	-	-	17.202	-	-	14.662	-	-	0.000	-	-	14.662
Support - F8843 - HEAVYWEIGHT QUALITY ASSURANCE Cost																		
3.1) Heavyweight Quality Assurance	-	-	2.842	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
Subtotal: Support - F8843 - HEAVYWEIGHT QUALITY ASSURANCE Cost	-	-	2.842	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
Support - F8833 - HEAVYWEIGHT PRODUCTION ENGINEERING - IN HOUSE Cost																		
4.1) Heavyweight Production Engineering (In-House)	-	-	41.941	-	-	5.450	-	-	5.784	-	-	5.900	-	-	0.000	-	-	5.900
Subtotal: Support - F8833 - HEAVYWEIGHT PRODUCTION ENGINEERING - IN HOUSE Cost	-	-	41.941	-	-	5.450	-	-	5.784	-	-	5.900	-	-	0.000	-	-	5.900
Support - F8863 - HEAVY WEIGHT ACCEPTANCE TEST AND EVALUATION Cost																		
5.1) Heavyweight Acceptance Test and Evalution	-	-	5.823	-	-	0.834	-	-	0.840	-	-	0.857	-	-	0.000	-	-	0.857
Subtotal: Support - F8863 - HEAVY WEIGHT ACCEPTANCE TEST AND EVALUATION Cost	-	-	5.823	-	-	0.834	-	-	0.840	-	-	0.857	-	-	0.000	-	-	0.857
Support - F8893 - HEAVYWEIGHT PRODUCTION ENGINEERING - CONTRACTOR Cost																		
6.1) Heavyweight Production Engineering - Contractor	-	-	9.614	-	-	0.900	-	-	0.900	-	-	0.900	-	-	0.000	-	-	0.900
Subtotal: Support - F8893 - HEAVYWEIGHT PRODUCTION	-	-	9.614	-	-	0.900	-	-	0.900	-	-	0.900	-	-	0.000	-	-	0.900

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Exhibit P-5, Cost Analysis: PB 2019 Navy										Date: February 2018									
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 03 / 3					P-1 Line Item Number / Title: 3301 / Torpedo Support Equipment					Item Number / Title [DODIC]: 3 / Heavyweight Torpedo Support Equipment									
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:									

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
ENGINEERING - CONTRACTOR Cost																		
Gross/Weapon System Cost	-	-	338.995	-	-	32.620	-	-	43.257	-	-	44.166	-	-	0.000	-	-	44.166

Remarks:

[Hardware] 4T material is consumed by the Fleet and IMAs each year, and must be replaced to maintain required inventory levels (2 year stock level). If funds are marked due to contract award delays, the next years funding is not adequate to replenish material consumed in the year prior, resulting in reduced inventory putting future torpedo builds at risk. All production deliveries, Fleet training, and Warshot maintenance builds depend on 4T material being readily available.

^(t) indicates the presence of a P-5a

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Exhibit P-5a, Procurement History and Planning: PB 2019 Navy								Date: February 2018				
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 03 / 3			P-1 Line Item Number / Title: 3301 / Torpedo Support Equipment					Item Number / Title [DODIC]: 3 / Heavyweight Torpedo Support Equipment				
Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$)	Specs Avail Now?	Date Revision Available	RFP Issue Date
1.1.1) F8100 Guidance and Control Assembly ^(†)		2014	Various / Various	C / FFP	NUWC, KEYPORT	Jul 2014	Jul 2016	47	311,829.79	Y		Apr 2012
1.1.2) F8100 MK 62-1 A-Cable (CWFP)		2015	DCX-CHOL / Chatsworth, CA	C / FFP	NAVSUP, GLS	Oct 2015	May 2016	60	3,200.00	Y		Apr 2015
1.1.2) F8100 MK 62-1 A-Cable (CWFP)		2016	Tyco Electronics Corporation, Boca Raton, Florida / NAVSUP GLS	C / FFP	NAVSUP, GLS	Jun 2016	Dec 2016	60	3,500.00	Y		Oct 2015
1.1.2) F8100 MK 62-1 A-Cable (CWFP)		2018	UNKNOWN / NAVSUP, GLS	C / FFP	NAVSUP, GLS	Apr 2018	Oct 2018	50	3,870.88	Y		
1.1.2) F8100 MK 62-1 A-Cable (CWFP)		2019	UNKNOWN / NAVSUP, GLS	C / FFP	NAVSUP, GLS	Apr 2019	Oct 2019	100	3,946.67	Y		
1.1.3) F8100 MK 62-1 A-Cable Insert (CWLE)		2015	SEACON PHOENIX, LLC / ASHAWAY, RI	C / FFP	NAVSUP, GLS	Apr 2015	Sep 2015	800	78.75	Y		Oct 2014
1.1.3) F8100 MK 62-1 A-Cable Insert (CWLE)		2016	SEACON PHOENIX, LLC / ASHAWAY, RI	C / FFP	NAVSUP, GLS	Jan 2016	Jun 2016	650	83.08	Y		Oct 2015
1.1.3) F8100 MK 62-1 A-Cable Insert (CWLE)		2019	TBD / TBD	C / FFP	NAVSUP	Apr 2019	Sep 2019	100	266.67	Y		
1.1.4) F8100 MK 62-1 A-Cable Receptacle (CWLD)		2019	UNKNOWN / NAVSUP, GLS	C / FFP	NAVSUP, GLS	Apr 2019	Sep 2019	100	1,960.00	Y		
1.1.5) F8100 Flex Hose (Improved) (CWQC)		2015	HL Technologies LP / Stafford, TX	C / FFP	NAVSUP, GLS	Apr 2015	Nov 2015	400	2,397.50	Y		Oct 2014
1.1.5) F8100 Flex Hose (Improved) (CWQC)		2016	Cortland Company, Inc / Cortland, NY	C / FFP	NAVSUP, GLS	Apr 2016	Oct 2016	400	2,517.50	Y		Jan 2015
1.1.5) F8100 Flex Hose (Improved) (CWQC)		2017	Cortland Company, Inc / Cortland, NY	C / FFP	NAVSUP, GLS	Aug 2017	Feb 2018	360	2,348.83	Y		
1.1.5) F8100 Flex Hose (Improved) (CWQC)		2018	TBD / TBD	C / FFP	NAVSUP, GLS	Mar 2018	Sep 2018	400	2,466.27	Y		
1.1.5) F8100 Flex Hose (Improved) (CWQC)		2019	TBD / TBD	C / FFP	NAVSUP	Apr 2019	Oct 2019	400	2,515.00	Y		
1.1.6) F8100 Strong Flex Hose (WW97)		2015	PRECISION HOSE INC. / STONE MOUNTAIN, GA	C / FFP	NAVSUP, GLS	Jan 2015	Jun 2015	100	1,230.00	Y		Oct 2014
1.1.6) F8100 Strong Flex Hose (WW97)		2016	PRECISION HOSE INC. / STONE MOUNTAIN, GA	C / FFP	NAVSUP, GLS	Jan 2016	Jun 2016	100	1,290.00	Y		Oct 2015
1.1.6) F8100 Strong Flex Hose (WW97)		2017	PRECISION HOSE INC. / STONE MOUNTAIN, GA	C / FFP	NAVSUP, GLS	Feb 2018	Jul 2018	150	1,420.51	Y		
1.1.6) F8100 Strong Flex Hose (WW97)		2018	TBD / TBD	C / FFP	NAVSUP, GLS	Apr 2018	Oct 2018	150	1,491.53	Y		
1.1.6) F8100 Strong Flex Hose (WW97)		2019	TBD / TBD	C / FFP	NAVSUP, GLS	Apr 2019	Oct 2019	200	1,520.00	Y		

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Exhibit P-5a, Procurement History and Planning: PB 2019 Navy									Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 03 / 3				P-1 Line Item Number / Title: 3301 / Torpedo Support Equipment					Item Number / Title [DODIC]: 3 / Heavyweight Torpedo Support Equipment			
Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$)	Specs Avail Now?	Date Revision Available	RFP Issue Date
1.1.7) F8100 Igniter (TH01)		2015	Pacific Scientific / Chandler, AZ	C / FFP	NAVSUP, GLS	Jan 2015	Jun 2015	504	545.63	Y		Oct 2014
1.1.7) F8100 Igniter (TH01)		2016	Pacific Scientific / Chandler, AZ	C / FFP	NAVSUP, GLS	Apr 2016	Sep 2016	550	572.73	Y		Jan 2016
1.1.7) F8100 Igniter (TH01)		2017	Pacific Scientific / Chandler, AZ	C / FFP	NAVSUP, GLS	Feb 2018	Jul 2018	504	678.37	Y		
1.1.7) F8100 Igniter (TH01)		2018	TBD / TBD	C / TBD	NAVSUP, GLS	Apr 2018	Sep 2018	504	712.29	Y		
1.1.7) F8100 Igniter (TH01)		2019	TBD / TBD	C / FFP	NAVSUP, GLS	Apr 2019	Sep 2019	600	725.93	Y		
1.1.8) F8100 Propellant (WW98)		2015	ALLIANT TECH / ELKTON, MD	C / FFP	NAVSUP, GLS	May 2015	Dec 2015	1,000	1,840.00	Y		Jan 2015
1.1.8) F8100 Propellant (WW98)		2016	ALLIANT TECH FY16 / ELKTON, MD	C / FFP	NAVSUP, GLS	Jan 2016	Jun 2016	500	1,932.00	Y		Oct 2015
1.1.8) F8100 Propellant (WW98)		2018	ALLIANT TECH / ELKTON, MD	C / FFP	NAVSUP, GLS	Nov 2017	Jun 2018	1,000	1,810.71	Y		
1.1.8) F8100 Propellant (WW98)		2019	UNKNOWN / NAVSUP, GLS	C / FFP	NAVSUP, GLS	Mar 2019	Sep 2019	400	1,846.00	Y		
1.1.9) F8100 Scuttle Valve (SW94)		2015	Cartridge Actuated Devices / Fairfield, NJ	C / FFP	NAVSUP, GLS	Nov 2015	Jul 2016	30	966.67	Y		May 2015
1.1.9) F8100 Scuttle Valve (SW94)		2016	Cartridge Actuated Devices FY16 / Fairfield, NJ	C / FFP	NAVSUP, GLS	Jan 2016	Jun 2016	30	1,000.00	Y		Oct 2015
1.1.9) F8100 Scuttle Valve (SW94)		2017	Cartridge Actuated Devices / Fairfield, NJ	C / FFP	NAVSUP, GLS	Jan 2018	Sep 2018	84	999.40	Y		
1.1.10) F8100 Sub Wire Coil (TW92)		2015	Entwistle Company / Hudson, MA	C / FFP	NAVSUP, GLS	Jan 2015	Jun 2015	600	3,770.00	Y		Oct 2014
1.1.10) F8100 Sub Wire Coil (TW92)		2016	Eagle Pitcher Technologies / Joplin, MO	C / FFP	NAVSUP, GLS	May 2016	Nov 2016	500	3,986.00	Y		Jan 2016
1.1.10) F8100 Sub Wire Coil (TW92)		2017	Entwistle Company / Hudson, MA	C / FFP	NAVSUP, GLS	Sep 2017	Feb 2018	500	3,806.19	Y		
1.1.10) F8100 Sub Wire Coil (TW92)		2018	UNKNOWN / NAVSUP GLS	C / TBD	NAVSUP, GLS	Mar 2018	Oct 2018	625	3,996.50	Y		
1.1.10) F8100 Sub Wire Coil (TW92)		2019	UNKNOWN / NAVSUP GLS	C / FFP	NAVSUP, GLS	Apr 2019	Nov 2019	600	4,076.80	Y		
1.1.11) F8100 Torpedo Wire Coil (SW83)		2015	ENTWISTLE / HUDSON, MA	C / FFP	NAVSUP, GLS	Jan 2015	Jun 2015	500	4,652.00	Y		Oct 2014
1.1.11) F8100 Torpedo Wire Coil (SW83)		2018	TBD / TBD	C / TBD	NAVSUP-WSS	Mar 2018	Sep 2018	550	6,191.81	Y		
1.1.11) F8100 Torpedo Wire Coil (SW83)		2019	TBD / TBD	C / FFP	NAVSUP, GLS	Mar 2019	Sep 2019	600	6,316.00	Y		
1.1.14) F8100 Crossover Batteries (CWRG)		2015	EAGLEPITCHER TECH / JOPLIN, MO	C / FFP	NAVSUP, GLS	Aug 2015	Jan 2016	400	2,742.50	Y		May 2015
1.1.14) F8100 Crossover Batteries (CWRG)		2017	EAGLEPITCHER TECH / JOPLIN, MO	C / FFP	NAVSUP, GLS	Oct 2016	Mar 2017	700	2,566.74	Y		
1.1.14) F8100 Crossover Batteries (CWRG)		2018	EAGLEPITCHER TECH / JOPLIN, MO	C / TBD	NAVSUP, GLS	Oct 2017	Mar 2018	625	2,695.08	Y		

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Exhibit P-5a, Procurement History and Planning: PB 2019 Navy									Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 03 / 3				P-1 Line Item Number / Title: 3301 / Torpedo Support Equipment					Item Number / Title [DODIC]: 3 / Heavyweight Torpedo Support Equipment			
Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$)	Specs Avail Now?	Date Revision Available	RFP Issue Date
1.1.14) F8100 Crossover Batteries (CWRG)		2019	UNKNOWN / NAVSUP, GLS	C / FFP	NAVSUP, GLS	Mar 2019	Aug 2019	600	2,748.80	Y		
1.1.15) F8100 Sonobuoys		2015	Unknown / Unknown	C / FFP	NUWC, KEYPORT	May 2015	Nov 2015	96	2,251.00	Y		Feb 2015
1.1.19) F8100 Deep Proofer Kits 1		2015	Ordnance Technology Service Inc. / NUWC, Newport	C / FFP	NUWC, NEWPORT	Oct 2015	Mar 2016	150	2,460.00	Y		May 2015
1.1.19) F8100 Deep Proofer Kits 1		2016	Ordnance Technology Service Inc. / NUWC, Newport	C / FFP	NUWC, NEWPORT	Jan 2016	Jun 2016	120	2,533.33	Y		Oct 2015
1.1.20) F8100 Deep Proofer Kits 2		2015	Ordnance Technology Service Inc. / NUWC, Newport	C / FFP	NUWC, NEWPORT	Jan 2015	Jun 2015	150	3,500.00	Y		Oct 2014
1.1.21) F8100 Short Wire Coils (CWRT)		2015	Entwistle Company / Hudson, MA	C / FFP	NAVSUP, GLS	Nov 2015	Mar 2016	650	2,741.54	Y		Jun 2015
1.1.21) F8100 Short Wire Coils (CWRT)		2016	Eagle Pitcher Technologies / Joplin, MO	C / FFP	NAVSUP, GLS	Jul 2016	Dec 2016	550	4,210.91	Y		Dec 2015
1.1.21) F8100 Short Wire Coils (CWRT)		2017	Eagle Pitcher Technologies / Joplin, MO	C / FFP	NAVSUP, GLS	Jan 2018	Jun 2018	400	5,692.50	Y		
1.1.22) F8100 Replacement Nose Arrays		2016	NORTHROP GRUMMAN SYSTEMS CORPORATION / NEWPORT	C / FFP	NUWC, NEWPORT	Mar 2017	Nov 2017	50	229,520.00	Y		Oct 2015
1.1.23) F8100 WES Expansion Box		2019	TBD / TBD	C / TBD	NAVSEA	Apr 2019	Apr 2020	230	14,534.78	Y		

(†) indicates the presence of a P-21

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Exhibit P-21, Production Schedule: PB 2019 Navy																				Date: February 2018												
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 03 / 3										P-1 Line Item Number / Title: 3301 / Torpedo Support Equipment										Item Number / Title [DODIC]: 3 / Heavyweight Torpedo Support Equipment												
Cost Elements (Units in Each)							Fiscal Year 2014										Fiscal Year 2015													BALANCE		
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2013	BAL DUE AS OF 1 OCT	Calendar Year 2014										Calendar Year 2015															
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G		S E P	
1.1.1) F8100 Guidance and Control Assembly																																
	1	2014	NAVY	47	0	47										A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	47
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P		

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Exhibit P-21, Production Schedule: PB 2019 Navy																				Date: February 2018														
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 03 / 3										P-1 Line Item Number / Title: 3301 / Torpedo Support Equipment										Item Number / Title [DODIC]: 3 / Heavyweight Torpedo Support Equipment														
Cost Elements <i>(Units in Each)</i>							Fiscal Year 2016													Fiscal Year 2017														BALANCE
O C C #	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2015	BAL DUE AS OF 1 OCT	Calendar Year 2016													Calendar Year 2017														
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P				
1.1.1) F8100 Guidance and Control Assembly																																		
	1	2014	NAVY	47	0	47	-	-	-	-	-	-	-	-	-	10	10	10	10	7													0	
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P				

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Exhibit P-21, Production Schedule: PB 2019 Navy																			Date: February 2018														
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 03 / 3							P-1 Line Item Number / Title: 3301 / Torpedo Support Equipment												Item Number / Title [DODIC]: 3 / Heavyweight Torpedo Support Equipment														
Cost Elements (Units in Each)							Fiscal Year 2018												Fiscal Year 2019												BALANCE		
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2017	BAL DUE AS OF 1 OCT	Calendar Year 2018												Calendar Year 2019														
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P			
1.1.1) F8100 Guidance and Control Assembly																																	
	1	2014	NAVY		47	47	0																										0
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P			

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Exhibit P-21, Production Schedule: PB 2019 Navy				Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 03 / 3			P-1 Line Item Number / Title: 3301 / Torpedo Support Equipment			Item Number / Title [DODIC]: 3 / Heavyweight Torpedo Support Equipment	

MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Year)			Procurement Leadtime (Months)							
		MSR For 2019	1-8-5 For 2019	MAX For 2019	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	Various - Various				0	0	24	24	0	0	24	24

"A" in the Delivery Schedule indicates the Contract Award Date.

Note: Due to space limitations, quantities in the Exhibit P-21 delivery calendar are truncated and rounded based on the maximum quantity in the calendar as follows. If the maximum quantity is less than or equal to than 9,999, all quantities are shown as each. If the maximum quantity is between 10,000 and 999,999 all quantities are shown in thousands. If the maximum quantity is between 1,000,000 and 999,999,999 all quantities are shown in millions (rounded to the nearest thousand). If the maximum quantity is equal or greater than 1,000,000,000 all quantities are shown in billions (rounded to the nearest million).

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy										Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 03: Torpedoes and Related Equipment / BSA 3: Support Equipment							P-1 Line Item Number / Title: 3302 / ASW Range Support					
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A				Other Related Program Elements: N/A					
Line Item MDAP/MAIS Code: N/A												
Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	48.167	3.706	3.864	3.872	0.000	3.872	4.000	4.092	4.164	4.260	Continuing	Continuing
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	48.167	3.706	3.864	3.872	0.000	3.872	4.000	4.092	4.164	4.260	Continuing	Continuing
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	48.167	3.706	3.864	3.872	0.000	3.872	4.000	4.092	4.164	4.260	Continuing	Continuing
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
<p>Description:</p> <p>The Anti-Submarine Warfare (ASW) Range program provides test and training tracking equipment for both Contiguous United States (CONUS) and Outside Contiguous United States (OCONUS). This equipment is used for ground truth tracking of participants during Fleet training exercises and torpedo firings and directly supports reconstruction and analysis for Undersea Warfare (USW) proficiency assessment and test, evaluation & analysis. The infrastructure supported includes: Southern California Offshore Range (SCORE), Barking Sands Tactical Underwater Range/Barking Sands Underwater Range Extension (BARSTUR/BSURE), Pacific Northwest Range Complex (Dabob and Nanoose), Atlantic Undersea Test and Evaluation Center (AUTC), Portable Offshore Training Range (POTR), Portable Undersea Training Range (PUTR) and other portable capabilities abroad in support of Forward Deployed Naval Forces (FDNF) training requirements.</p> <p>[P5 / F4001 - UTRE/PINGER EXERCISE EQUIPMENT]: Underwater tracking equipment is placed in weapons and other underwater vehicles for tracking during training and Test and Evaluation (T&E) exercises, and to ensure safe operation and movement of all craft and weapons on fixed and portable ranges for the Underwater Tracking Range Equipment (UTRE)/Pinger program. Funding is used to procure equipment for T&E exercises in addition to improvement and modernization projects.</p> <p>[P5 / F4006 - STATIONARY TARGET EQUIPMENT MK28]: The stationary target equipment includes the MK 28 Targets and all equipment used for conducting Service Weapons Tests (SWT) on in-service and advanced war-shot torpedoes. The SWT is the only test the Navy has to verify the explosive train of lightweight and heavyweight torpedoes. Funding is used to procure target systems and equipment for SWT in addition to improvement and modernization projects.</p> <p>[P5 / F4830 - PRODUCTION ENGINEERING - UTRE]: Funds for production engineering efforts performed by a field activity or contractor during the production phase of these projects.</p> <p>[P5 / F4850 - PRODUCT IMPROVEMENT - UTRE]: Product improvement for fixed and portable range and fleet equipment.</p>												

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy								Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 03: Torpedoes and Related Equipment / BSA 3: Support Equipment						P-1 Line Item Number / Title: 3302 / ASW Range Support				
ID Code (A=Service Ready, B=Not Service Ready): A				Program Elements for Code B Items: N/A			Other Related Program Elements: N/A			
Line Item MDAP/MAIS Code: N/A										
Exhibits Schedule					Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	1 / ASW Range Support [F4001]				- / 48.167	- / 3.706	- / 3.864	- / 3.872	- / 0.000	- / 3.872
P-40	Total Gross/Weapon System Cost				- / 48.167	- / 3.706	- / 3.864	- / 3.872	- / 0.000	- / 3.872
<small>*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.</small>										
<small>Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.</small>										

Justification:

The Anti-Submarine Warfare (ASW) Range program provides underwater tracking equipment and fleet equipment for use on underwater fixed and portable ranges.

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Exhibit P-5, Cost Analysis: PB 2019 Navy												Date: February 2018						
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 03 / 3						P-1 Line Item Number / Title: 3302 / ASW Range Support						Item Number / Title [DODIC]: 1 / ASW Range Support [F4001]						
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:								
Resource Summary				Prior Years		FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total				
Procurement Quantity <i>(Units in Each)</i>				-		-		-		-		-		-				
Gross/Weapon System Cost <i>(\$ in Millions)</i>				48.167		3.706		3.864		3.872		0.000		3.872				
Less PY Advance Procurement <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Net Procurement (P-1) <i>(\$ in Millions)</i>				48.167		3.706		3.864		3.872		0.000		3.872				
Plus CY Advance Procurement <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Total Obligation Authority <i>(\$ in Millions)</i>				48.167		3.706		3.864		3.872		0.000		3.872				
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)																		
Initial Spares <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Gross/Weapon System Unit Cost <i>(\$ in Dollars)</i>				-		-		-		-		-		-				
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
Hardware Cost																		
Recurring Cost																		
1.1.1) F4001 - UTRE/ PINGER EXERCISE EQUIPMENT	-	-	23.245	-	-	1.779	-	-	1.824	-	-	1.832	-	-	-	-	-	1.832
1.1.2) F4006 - STATIONARY TARGET EQUIPMENT MK28	-	-	14.183	-	-	1.327	-	-	1.340	-	-	1.340	-	-	-	-	-	1.340
Subtotal: Recurring Cost	-	-	37.428	-	-	3.106	-	-	3.164	-	-	3.172	-	-	-	-	-	3.172
Subtotal: Hardware Cost	-	-	37.428	-	-	3.106	-	-	3.164	-	-	3.172	-	-	-	-	-	3.172
Support Cost																		
2.1) F4830 - PRODUCTION ENGINEERING - UTRE	-	-	5.842	-	-	0.300	-	-	0.350	-	-	0.350	-	-	-	-	-	0.350
2.2) F4850 - PRODUCT IMPROVEMENT - UTRE	-	-	4.897	-	-	0.300	-	-	0.350	-	-	0.350	-	-	-	-	-	0.350
Subtotal: Support Cost	-	-	10.739	-	-	0.600	-	-	0.700	-	-	0.700	-	-	-	-	-	0.700
Gross/Weapon System Cost	-	-	48.167	-	-	3.706	-	-	3.864	-	-	3.872	-	-	0.000	-	-	3.872

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy										Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 03: Torpedoes and Related Equipment / BSA 4: Destination Transportation							P-1 Line Item Number / Title: 2410 / First Destination Transportation					
ID Code (A=Service Ready, B=Not Service Ready): A				Program Elements for Code B Items: N/A				Other Related Program Elements: N/A				
Line Item MDAP/MAIS Code: N/A												
Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	22.031	3.804	3.961	3.726	0.000	3.726	3.803	3.881	3.959	4.037	Continuing	Continuing
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	22.031	3.804	3.961	3.726	0.000	3.726	3.803	3.881	3.959	4.037	Continuing	Continuing
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	22.031	3.804	3.961	3.726	0.000	3.726	3.803	3.881	3.959	4.037	Continuing	Continuing
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Description: First Destination Transportation (FDT) provides for the movement of newly procured weapons related equipment and material from the contractor's plant to the initial point of receipt for subsequent shipment to its destination.												

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy							Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 03: Torpedoes and Related Equipment / BSA 4: Destination Transportation					P-1 Line Item Number / Title: 2410 / First Destination Transportation					
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A				Other Related Program Elements: N/A			
Line Item MDAP/MAIS Code: N/A										
Exhibits Schedule					Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	1 / FIRST DESTINATION TRANSPORTATION (FDT)				- / 22.031	- / 3.804	- / 3.961	- / 3.726	- / 0.000	- / 3.726
P-40	Total Gross/Weapon System Cost				- / 22.031	- / 3.804	- / 3.961	- / 3.726	- / 0.000	- / 3.726
*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.										
Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.										

Justification:

FY 2019 funds are required for transportation costs for shipments of weapons related equipment and material to its initial destination from the contractor's plant.

The FY 2019 funding request was reduced by \$0.117 million to reflect the Department of Navy's effort to support the Office of Management and Budget directed reforms for Efficiency and Effectiveness that include a lean, accountable, more efficient government.

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Exhibit P-5, Cost Analysis: PB 2019 Navy										Date: February 2018									
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 03 / 4						P-1 Line Item Number / Title: 2410 / First Destination Transportation						Item Number / Title [DODIC]: 1 / FIRST DESTINATION TRANSPORTATION (FDT)							
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:									
Resource Summary				Prior Years		FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total					
Procurement Quantity (Units in Each)				-		-		-		-		-		-					
Gross/Weapon System Cost (\$ in Millions)				22.031		3.804		3.961		3.726		0.000		3.726					
Less PY Advance Procurement (\$ in Millions)				-		-		-		-		-		-					
Net Procurement (P-1) (\$ in Millions)				22.031		3.804		3.961		3.726		0.000		3.726					
Plus CY Advance Procurement (\$ in Millions)				-		-		-		-		-		-					
Total Obligation Authority (\$ in Millions)				22.031		3.804		3.961		3.726		0.000		3.726					
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)																			
Initial Spares (\$ in Millions)				-		-		-		-		-		-					
Gross/Weapon System Unit Cost (\$ in Dollars)				-		-		-		-		-		-					
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																			
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total			
	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	
Support Cost																			
1.1) First Destination Transportation-NAVSUP	-	-	11.034	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1.2) First Destination Transportation - NAVAIR	-	-	5.192	-	-	1.676	-	-	1.778	-	-	1.679	-	-	-	-	-	1.679	
1.3) First Destination Transportation - NAVSEA	-	-	2.653	-	-	0.855	-	-	0.908	-	-	0.915	-	-	-	-	-	0.915	
1.4) First Destination Transportation - SSP	-	-	3.152	-	-	1.273	-	-	1.275	-	-	1.132	-	-	-	-	-	1.132	
Subtotal: Support Cost	-	-	22.031	-	-	3.804	-	-	3.961	-	-	3.726	-	-	-	-	-	3.726	
Gross/Weapon System Cost	-	-	22.031	-	-	3.804	-	-	3.961	-	-	3.726	-	-	0.000	-	-	3.726	

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy										Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 04: Other Weapons / BSA 1: Guns and Gun Mounts							P-1 Line Item Number / Title: 4129 / Small Arms and Weapons					
ID Code (A=Service Ready, B=Not Service Ready): A				Program Elements for Code B Items: N/A				Other Related Program Elements: N/A				
Line Item MDAP/MAIS Code: N/A												
Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	96.265	18.002	12.832	15.067	1.540	16.607	14.792	11.903	12.356	12.597	-	195.354
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	96.265	18.002	12.832	15.067	1.540	16.607	14.792	11.903	12.356	12.597	-	195.354
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	96.265	18.002	12.832	15.067	1.540	16.607	14.792	11.903	12.356	12.597	-	195.354
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
<p>Description:</p> <p>The FY 2019 funding request was reduced by \$0.031 million to reflect the Department of Navy's effort to support the Office of Management and Budget directed reforms for Efficiency and Effectiveness that include a lean, accountable, more efficient government.</p> <p>This line item procures the initial issue of weapons, modernization, standardization and stock replenishment of a wide variety of Small Arms and weapons (caliber .50 and below) to meet Small Arms allowances and inventory objectives, including required gun mounts and associated support components.</p> <p>This line also provides sufficient types and quantities of weapons to support training, afloat security forces and shore missions of approximately 1,300 ship/ashore activities Navy-wide including the Naval Mobile Construction Battalions, Naval Construction Force Support Units, Construction Battalion Maintenance Units, Mobile Security Force, Marine Corps Security Force Battalion and Master at Arms. Quantities of weapons procured with the above funding are to meet Small Arms allowances and inventory objectives.</p> <p>This line item also procures a range of weapons and small arms considered service common equipment for Naval Special Warfare (NSW) such as assault and sniper rifles, handguns, machine guns, mortar firing systems, and a variety of components including gun sights, gun mounts, combat and thermal optics and other related equipment. This funding supports the inventory objectives and service-common Small Arms allowances for NSW.</p>												

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy								Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 04: Other Weapons / BSA 1: Guns and Gun Mounts						P-1 Line Item Number / Title: 4129 / Small Arms and Weapons				
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A			Other Related Program Elements: N/A				
Line Item MDAP/MAIS Code: N/A										
Exhibits Schedule					Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	1 / EXPEDITIONARY WARFARE	P-5a			- / 52.327	- / 5.050	- / 6.763	- / 8.914	- / 1.540	- / 10.454
P-5	2 / SURFACE WARFARE	P-5a			- / 41.638	- / 5.945	- / 6.069	- / 6.153	- / 0.000	- / 6.153
P-5	3 / STRATEGIC SYSTEMS PROGRAMS (SSP)	P-5a			- / 2.300	- / 7.007	- / 0.000	- / 0.000	- / 0.000	- / 0.000
P-40	Total Gross/Weapon System Cost				- / 96.265	- / 18.002	- / 12.832	- / 15.067	- / 1.540	- / 16.607
*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.										
Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.										
<p>Justification: Funding in FY2019 supports meeting Navy inventory objectives, including the XM17 Modular Handgun System (MHS) service pistol and the 5.56 carbine. Funding also supports Naval Special Warfare efforts supporting the NSW service common inventory allowance and includes the phased replacement of M16 rifles to the M4A1N 5.56mm carbine, the replacement of the MK14 series 7.62x51MM enhanced battle rifle (EBR) with the Compact Semi-automatic Sniper System (CSASS), and M224 60MM Mortars. Funding supports procuring 56 MK 48, 935 M4A1 5.56MM Carbine, 10,000 MHS, XM17, 41 60MM Mortars (M224) associated transportation, and production engineering for Expeditionary Warfare. Funding supports procuring 2,500 M4A1 5.56MM Carbine, 10,000 MHS, XM17, 100 M2A1, and 400 MK 87-M4 UPPER and production engineering for Surface Warfare.</p> <p>The increase from FY2018 to FY2019 reflects service-common requirements supporting approved End Strength Growth in order to meet Geographic Combatant Commanders (GCC) demands to support existing counter-terrorist, counter violent extremist organization, and Building Partner Capacity missions and operations. The disaggregated nature of current operations has SEAL elements deployed across the GCCs conducting combat or combat advise operations in austere environments with little-to-no established DoD infrastructure. This materiel supports NSW core mission requirements and is essential to the readiness and battlefield effectiveness of NSW in winning the current fight against ISIS and other extremist elements.</p> <p>OCO: FY 2019 OCO funding is required to replenish and reset 60MM Mortar Systems (M224) and related components used by Naval Special Warfare (NSW) in combat operations and expended in theater in direct support of Operation Inherent Resolve (OIR).</p>										

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Exhibit P-5, Cost Analysis: PB 2019 Navy													Date: February 2018					
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 04 / 1						P-1 Line Item Number / Title: 4129 / Small Arms and Weapons							Item Number / Title [DODIC]: 1 / EXPEDITIONARY WARFARE					
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:								
Resource Summary				Prior Years		FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total				
Procurement Quantity <i>(Units in Each)</i>				-		-		-		-		-		-				
Gross/Weapon System Cost <i>(\$ in Millions)</i>				52.327		5.050		6.763		8.914		1.540		10.454				
Less PY Advance Procurement <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Net Procurement (P-1) <i>(\$ in Millions)</i>				52.327		5.050		6.763		8.914		1.540		10.454				
Plus CY Advance Procurement <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Total Obligation Authority <i>(\$ in Millions)</i>				52.327		5.050		6.763		8.914		1.540		10.454				
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)																		
Initial Spares <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Gross/Weapon System Unit Cost <i>(\$ in Dollars)</i>				-		-		-		-		-		-				
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
Hardware - EXPEDITIONARY WARFARE Cost																		
Recurring Cost																		
1.1.1) SSAM/MK50 ^(†)	-	-	2.400	298,039.00	3	0.894	284,000.00	6	1.704	-	-	0.000	-	-	0.000	-	-	0.000
1.1.2) MK48 ^(†)	-	-	0.000	8,075.00	25	0.202	9,000.00	60	0.540	9,000.00	56	0.504	-	-	0.000	9,000.00	56	0.504
1.1.3) MK48 REFURB ^(†)	-	-	0.000	5,930.00	35	0.208	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
1.1.4) M107 .50 CAL SNIPER RIFLE ^(†)	-	-	0.000	12,500.00	2	0.025	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
1.1.6) M11 9MM PISTOL ^(†)	-	-	0.000	695.00	40	0.028	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
1.1.7) M9 9MM PISTOL ^(†)	21,876.40	89	1.947	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
1.1.8) MK44 7.62MM MINIGUN ^(†)	-	-	2.291	72,500.00	2	0.145	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
1.1.9) MK44 REFURB ^(†)	-	-	0.000	40,800.00	3	0.122	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
1.1.10) EXPEDITIONARY MOUNTS ^(†)	-	-	0.000	2,748.00	40	0.110	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
1.1.11) MK-19 MOD 3 40MM GMG ^(†)	-	-	0.000	17,206.00	9	0.155	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
1.1.12) M4A1 5.56MM CARBINE ^(†)	24,820.86	374	9.283	800.00	262	0.210	-	-	0.000	750.00	750	0.563	-	-	0.000	750.00	750	0.563

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Exhibit P-5, Cost Analysis: PB 2019 Navy													Date: February 2018					
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 04 / 1							P-1 Line Item Number / Title: 4129 / Small Arms and Weapons						Item Number / Title [DODIC]: 1 / EXPEDITIONARY WARFARE					
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:								
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
1.1.14) M240B 7.62MM MG ^(†)	102,589.04	73	7.489	7,700.00	57	0.439	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
1.1.15) M2HB .50 CAL MG	-	-	21.640	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
1.1.16) M2A1 ^(†)	-	-	0.000	14,975.00	146	2.186	14,000.00	95	1.330	-	-	0.000	-	-	0.000	-	-	0.000
1.1.17) M2A1 COMPONENTS	-	-	7.277	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
1.1.18) M18 MHS, XM17 ^(†)	-	-	0.000	-	-	0.000	-	-	0.000	200.00	6,000	1.200	-	-	0.000	200.00	6,000	1.200
1.1.19) CSASS	-	-	0.000	-	-	0.000	-	-	0.000	8,500.00	326	2.771	-	-	0.000	8,500.00	326	2.771
1.1.20) M224 60MM MORTAR ^(†) (1)	-	-	0.000	-	-	0.000	99,830.00	1	0.100	67,188.00	41	2.755	66,957.00	23	1.540	67,109.38	64	4.295
1.1.21) M252 81MM MORTAR ^(†) (2)	-	-	0.000	-	-	0.000	50,454.55	55	2.775	-	-	0.000	-	-	0.000	-	-	0.000
Subtotal: Recurring Cost	-	-	52.327	-	-	4.724	-	-	6.449	-	-	7.793	-	-	1.540	-	-	9.333
Subtotal: Hardware - EXPEDITIONARY WARFARE Cost	-	-	52.327	-	-	4.724	-	-	6.449	-	-	7.793	-	-	1.540	-	-	9.333
Hardware - TRANSPORTATION ACCOUNT CODE (TAC) Cost																		
Recurring Cost																		
2.1.1) SMALL ARMS TAC	-	-	0.000	-	-	0.010	-	-	0.094	-	-	0.100	-	-	0.000	-	-	0.100
Subtotal: Recurring Cost	-	-	0.000	-	-	0.010	-	-	0.094	-	-	0.100	-	-	0.000	-	-	0.100
Subtotal: Hardware - TRANSPORTATION ACCOUNT CODE (TAC) Cost	-	-	0.000	-	-	0.010	-	-	0.094	-	-	0.100	-	-	0.000	-	-	0.100
Support - EXPEDITIONARY WARFARE Cost																		
3.1) Production Engineering	-	-	0.000	-	-	0.316	-	-	0.220	-	-	1.021	-	-	0.000	-	-	1.021
Subtotal: Support - EXPEDITIONARY WARFARE Cost	-	-	0.000	-	-	0.316	-	-	0.220	-	-	1.021	-	-	0.000	-	-	1.021
Gross/Weapon System Cost	-	-	52.327	-	-	5.050	-	-	6.763	-	-	8.914	-	-	1.540	-	-	10.454
(†) indicates the presence of a P-5a																		
Footnotes:																		

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Exhibit P-5, Cost Analysis: PB 2019 Navy		Date: February 2018
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 04 / 1	P-1 Line Item Number / Title: 4129 / Small Arms and Weapons	Item Number / Title [DODIC]: 1 / EXPEDITIONARY WARFARE
ID Code (A=Service Ready, B=Not Service Ready) :		MDAP/MAIS Code:
<div>(1) Unit cost difference is due to Economic Order Quantity.</div> <div>(2) Unit cost difference is due to Economic Order Quantity.</div>		

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Exhibit P-5a, Procurement History and Planning: PB 2019 Navy								Date: February 2018				
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 04 / 1				P-1 Line Item Number / Title: 4129 / Small Arms and Weapons				Item Number / Title [DODIC]: 1 / EXPEDITIONARY WARFARE				
Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$)	Specs Avail Now?	Date Revision Available	RFP Issue Date
1.1.1) SSAM/MK50		2017	Kongsberg Protech / Johnstown, PA	C / FFP	PICATINNY	May 2017	Jun 2017	3	298,039.00	N		Jan 2017
1.1.1) SSAM/MK50		2018	Kongsberg Protech / Johnstown, PA	TBD	PICATINNY	Mar 2018	Aug 2018	6	284,000.00	N		Jan 2018
1.1.2) MK48		2017	NSWC / CRANE, IN	C / IDDQ	NSWC CRANE	Apr 2017	Sep 2017	25	8,075.00	N		Jan 2017
1.1.2) MK48		2018	NSWC / CRANE, IN	C / IDDQ	NSWC CRANE	Apr 2018	Sep 2018	60	9,000.00	N		Jan 2018
1.1.2) MK48		2019	NSWC / CRANE, IN	C / IDIQ	NSWC CRANE	Apr 2019	Sep 2019	56	9,000.00	N		Jan 2019
1.1.3) MK48 REFURB		2017	NSWC / CRANE, IN	WR	NSWC CRANE	Jun 2017	Nov 2017	35	5,930.00	N		
1.1.4) M107 .50 CAL SNIPER RIFLE		2017	BARRETT / CHRISTIANA, TN	C / IDDQ	NSWC CRANE	Jun 2017	Jun 2017	2	12,500.00	N		Oct 2016
1.1.6) M11 9MM PISTOL		2017	SIGARMS / EXTER, NH	C / FFP	TACOM LCMC	Jun 2017	Jan 2018	40	695.00	N		Oct 2016
1.1.7) M9 9MM PISTOL		2016	BERETTA / ACCOKEEK, MD	C / FFP	ROCK ISLAND ARSENAL	Jun 2016	Oct 2016	89	685.39	N		Jan 2016
1.1.8) MK44 7.62MM MINIGUN		2017	DILLION / SCOTTSDALE, AZ	C / FFP	NSWC CRANE	Mar 2017	Jul 2017	2	72,500.00	N		Jan 2016
1.1.9) MK44 REFURB		2017	NSWC / CRANE, IN	WR	NSWC CRANE	Mar 2017	Aug 2017	3	40,800.00	N		
1.1.10) EXPEDITIONARY MOUNTS		2017	FRASER / LEXINGTON, MI	C / IDIQ	NSWC CRANE	Jun 2017	Jul 2017	40	2,748.00	N		Jan 2017
1.1.11) MK-19 MOD 3 40MM GMG		2017	FN / COLUMBIA, SC	C / IDIQ	PICATINNY	Jun 2017	Jun 2019	9	17,206.00	N		Oct 2016
1.1.12) M4A1 5.56MM CARBINE		2016	COLT / HARTFORD, CT	C / FFP	TACOM LCMC	Mar 2016	Apr 2017	374	1,451.87	N		Oct 2015
1.1.12) M4A1 5.56MM CARBINE		2017	COLT / HARTFORD, CT	C / FFP	TACOM LCMC	Aug 2017	Sep 2018	262	800.00	N		May 2017
1.1.12) M4A1 5.56MM CARBINE		2019	COLT / HARTFORD, CT	C / FFP	TACOM LCMC	Jan 2019	Feb 2020	750	750.00	N		Oct 2018
1.1.14) M240B 7.62MM MG		2016	FN / COLUMBIA, SC	C / IDIQ	TACOM LCMC	Dec 2015	Jan 2018	73	6,392.86	N		Oct 2015
1.1.14) M240B 7.62MM MG		2017	FN / COLUMBIA, SC	C / IDIQ	TACOM LCMC	Jun 2017	Jul 2019	57	7,700.00	N		Oct 2016
1.1.16) M2A1		2017	GD / BURLINGTON, VT	C / TBD	PICATINNY	Dec 2017	Dec 2018	146	14,975.00	N		Oct 2017
1.1.16) M2A1		2018	GD / BURLINGTON, VT	C / TBD	PICATINNY	Dec 2017	Dec 2018	95	14,000.00	N		Oct 2017
1.1.18) M18 MHS, XM17		2019	SIGARMS / EXTER, NH	C / FFP	PICATINNY	Dec 2018	Dec 2018	6,000	200.00	N		Oct 2018
1.1.20) M224 60MM MORTAR		2018	TBD / TBD	C / IDIQ	PICATINNY	Jan 2018	Jan 2018	1	99,830.00	Y		Oct 2017
1.1.20) M224 60MM MORTAR		2019	TBD / TBD	C / IDIQ	PICATINNY	Jan 2019	Jan 2019	41	67,188.00	Y		Oct 2018
1.1.20) M224 60MM MORTAR	✓	2019	TBD / TBD	C / TBD	** NO PCO **	Oct 2018	Oct 2018	23	66,957.00	N		
1.1.21) M252 81MM MORTAR		2018	TBD / TBD	C / FFP	PICATINNY	Jan 2018	Jan 2018	25	51,000.00	Y		Oct 2017
1.1.21) M252 81MM MORTAR	✓	2018	TBD / TBD	C / FFP	PICATINNY	Jan 2018	Jan 2018	30	50,000.00	Y		Oct 2017

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Exhibit P-5, Cost Analysis: PB 2019 Navy													Date: February 2018					
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 04 / 1						P-1 Line Item Number / Title: 4129 / Small Arms and Weapons							Item Number / Title [DODIC]: 2 / SURFACE WARFARE					
ID Code (A=Service Ready, B=Not Service Ready) :									MDAP/MAIS Code:									
Resource Summary				Prior Years		FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total				
Procurement Quantity <i>(Units in Each)</i>				-		-		-		-		-		-				
Gross/Weapon System Cost <i>(\$ in Millions)</i>				41.638		5.945		6.069		6.153		0.000		6.153				
Less PY Advance Procurement <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Net Procurement (P-1) <i>(\$ in Millions)</i>				41.638		5.945		6.069		6.153		0.000		6.153				
Plus CY Advance Procurement <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Total Obligation Authority <i>(\$ in Millions)</i>				41.638		5.945		6.069		6.153		0.000		6.153				
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)																		
Initial Spares <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Gross/Weapon System Unit Cost <i>(\$ in Dollars)</i>				-		-		-		-		-		-				
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
Hardware - SURFACE WARFARE Cost																		
Recurring Cost																		
1.1.1) MK44 REFURB ^(†)	-	-	0.000	40,800.00	1	0.041	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
1.1.3) MOSS 500A1 12G SHOTGUN	-	-	0.000	-	-	0.000	-	-	0.000	250.00	500	0.125	-	-	0.000	250.00	500	0.125
1.1.6) M4A1 5.56MM CARBINE ^(†)	14,342.03	345	4.948	-	-	0.000	750.00	1,000	0.750	750.00	250	0.188	-	-	0.000	750.00	250	0.188
1.1.8) M240B 7.62MM MG ^(†)	135,468.75	192	26.010	7,700.00	169	1.301	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
1.1.9) M9 9MM PISTOL ^(†)	9,717.39	230	2.235	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
1.1.10) M2HB REFURB/M2A1 QCB CONVO KITS ^(†)	-	-	0.000	5,073.00	277	1.405	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
1.1.11) M2A1 COMPONENTS	-	-	7.173	14,975.00	200	2.995	14,000.00	167	2.338	14,000.00	185	2.590	-	-	0.000	14,000.00	185	2.590
1.1.12) M18 MHS, XM17 ^(†)	-	-	0.000	-	-	0.000	200.00	14,000	2.800	200.00	13,300	2.660	-	-	0.000	200.00	13,300	2.660
1.1.13) MK87-M4 UPPER ^(†)	-	-	0.000	-	-	0.000	-	-	0.000	400.00	500	0.200	-	-	0.000	400.00	500	0.200
Subtotal: Recurring Cost	-	-	40.366	-	-	5.742	-	-	5.888	-	-	5.763	-	-	0.000	-	-	5.763
Subtotal: Hardware - SURFACE WARFARE Cost	-	-	40.366	-	-	5.742	-	-	5.888	-	-	5.763	-	-	0.000	-	-	5.763

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Exhibit P-5, Cost Analysis: PB 2019 Navy													Date: February 2018					
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 04 / 1							P-1 Line Item Number / Title: 4129 / Small Arms and Weapons						Item Number / Title [DODIC]: 2 / SURFACE WARFARE					
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:								
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
Support - SURFACE WARFARE Cost																		
2.2) PRODUCTION ENGINEERING	-	-	1.272	-	-	0.203	-	-	0.181	-	-	0.390	-	-	0.000	-	-	0.390
Subtotal: Support - SURFACE WARFARE Cost	-	-	1.272	-	-	0.203	-	-	0.181	-	-	0.390	-	-	0.000	-	-	0.390
Gross/Weapon System Cost	-	-	41.638	-	-	5.945	-	-	6.069	-	-	6.153	-	-	0.000	-	-	6.153

(†) indicates the presence of a P-5a

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Exhibit P-5a, Procurement History and Planning: PB 2019 Navy									Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 04 / 1			P-1 Line Item Number / Title: 4129 / Small Arms and Weapons						Item Number / Title [DODIC]: 2 / SURFACE WARFARE			
Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$)	Specs Avail Now?	Date Revision Available	RFP Issue Date
1.1.1) MK44 REFURB		2017	NSWC / CRANE, IN	WR	NSWC CRANE	Mar 2017	Mar 2017	1	40,800.00	N		
1.1.6) M4A1 5.56MM CARBINE		2016	COLT / HARTFORD, CT	C / FFP	TACOM LCMC	May 2017	Jun 2018	345	1,451.87	N		Oct 2016
1.1.6) M4A1 5.56MM CARBINE		2018	COLT / HARTFORD, CT	C / FFP	TACOM LCMC	Jan 2018	Feb 2019	1,000	750.00	N		Oct 2017
1.1.6) M4A1 5.56MM CARBINE		2019	COLT / HARTFORD, CT	C / FFP	TACOM LCMC	Jan 2019	Feb 2020	250	750.00	N		Oct 2018
1.1.8) M240B 7.62MM MG		2016	FN / COLUMBIA, SC	C / IDIQ	TACOM LCMC	Dec 2015	Jan 2018	192	6,392.86	N		Oct 2015
1.1.8) M240B 7.62MM MG		2017	FN / COLUMBIA, SC	C / IDIQ	PICATINNY	Jun 2017	Jul 2019	169	7,700.00	N		Oct 2016
1.1.9) M9 9MM PISTOL		2016	BERETTA / ACCOKEEK, MD	C / FFP	TACOM LCMC	Jun 2016	Oct 2016	230	685.39	N		Jan 2016
1.1.10) M2HB REFURB/M2A1 QCB CONVO KITS		2017	NSWC / CRANE, IN	WR	NSWC CRANE	Jun 2017	Oct 2017	277	5,073.00	N		
1.1.12) M18 MHS, XM17		2018	SIGARMS / EXTER, NH	C / TBD	PICATINNY	Dec 2017	Dec 2017	14,000	200.00	N		Oct 2017
1.1.12) M18 MHS, XM17		2019	SIGARMS / EXTER, NH	C / TBD	PICATINNY	Dec 2018	Dec 2018	13,300	200.00	N		Oct 2018
1.1.13) MK87-M4 UPPER		2019	TBD / TBD	WR	CRANE	Dec 2018	Dec 2018	500	400.00	N		Oct 2018

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Exhibit P-5, Cost Analysis: PB 2019 Navy												Date: February 2018							
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 04 / 1						P-1 Line Item Number / Title: 4129 / Small Arms and Weapons						Item Number / Title [DODIC]: 3 / STRATEGIC SYSTEMS PROGRAMS (SSP)							
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:									
Resource Summary				Prior Years		FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total					
Procurement Quantity (Units in Each)				-		-		-		-		-		-					
Gross/Weapon System Cost (\$ in Millions)				2.300		7.007		0.000		0.000		0.000		0.000					
Less PY Advance Procurement (\$ in Millions)				-		-		-		-		-		-					
Net Procurement (P-1) (\$ in Millions)				2.300		7.007		0.000		0.000		0.000		0.000					
Plus CY Advance Procurement (\$ in Millions)				-		-		-		-		-		-					
Total Obligation Authority (\$ in Millions)				2.300		7.007		0.000		0.000		0.000		0.000					
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)																			
Initial Spares (\$ in Millions)				-		-		-		-		-		-					
Gross/Weapon System Unit Cost (\$ in Dollars)				-		-		-		-		-		-					
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																			
Cost Elements		Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
		Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
Hardware - STRATEGIC SYSTEMS PROGRAMS Cost																			
Recurring Cost																			
1.1.1) M4A1 Suppressor ^(†)	-	-	0.000	1,120.19	1,040	1.165	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	
1.1.2) M4A1 Accessories	-	-	0.000	-	-	0.196	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	
1.1.3) AN/PVQ-31B (RCOM4) ^(†)	872.79	849	0.741	902.03	1,040	0.938	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	
1.1.4) AN/PEQ-16 ^(†)	1,836.28	849	1.559	1,873.08	1,040	1.948	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	
1.1.5) M240B Machine Gun Accessories	-	-	0.000	-	-	0.091	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	
1.1.6) M9A1 Pistol Accessories/ Components	-	-	0.000	-	-	0.020	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	
1.1.7) AN/PVS-14 ^(†)	-	-	0.000	3,752.72	352	1.321	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	
1.1.8) AN/PVS-14 Conversion Kits	-	-	0.000	-	-	0.039	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	
1.1.9) AN/PAS-13G (V) ¹ (†)	-	-	0.000	8,160.31	158	1.289	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	
Subtotal: Recurring Cost	-	-	2.300	-	-	7.007	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	
Subtotal: Hardware - STRATEGIC SYSTEMS PROGRAMS Cost	-	-	2.300	-	-	7.007	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	

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Exhibit P-5, Cost Analysis: PB 2019 Navy		Date: February 2018
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 04 / 1	P-1 Line Item Number / Title: 4129 / Small Arms and Weapons	Item Number / Title [DODIC]: 3 / STRATEGIC SYSTEMS PROGRAMS (SSP)

ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
Gross/Weapon System Cost	-	-	2.300	-	-	7.007	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000

(t) indicates the presence of a P-5a

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Exhibit P-5a, Procurement History and Planning: PB 2019 Navy								Date: February 2018				
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 04 / 1			P-1 Line Item Number / Title: 4129 / Small Arms and Weapons					Item Number / Title [DODIC]: 3 / STRATEGIC SYSTEMS PROGRAMS (SSP)				
Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$)	Specs Avail Now?	Date Revision Available	RFP Issue Date
1.1.1) M4A1 Suppressor		2017	USMC / Quantico, VA	MIPR	Quantico, VA	May 2017	Jan 2019	1,040	1,120.19	N		
1.1.3) AN/PVQ-31B (RCOM4)		2016	USMC / Quantico, VA	MIPR	Quantico, VA	Jun 2016	Jun 2017	849	872.79	N		
1.1.3) AN/PVQ-31B (RCOM4)		2017	USMC / Quantico, VA	MIPR	Quantico, VA	May 2017	May 2018	1,040	902.03	N		
1.1.4) AN/PEQ-16		2016	USMC / Quantico, VA	MIPR	Quantico, VA	Jun 2016	Jun 2017	849	1,836.74	N		
1.1.4) AN/PEQ-16		2017	USMC / Quantico, VA	MIPR	Quantico, VA	May 2017	May 2018	1,040	1,873.08	N		
1.1.7) AN/PVS-14		2017	USMC / Quantico, VA	MIPR	Quantico, VA	May 2017	May 2018	352	3,752.72	N		
1.1.9) AN/PAS-13G (V) 1		2017	USMC / Quantico, VA	MIPR	Quantico, VA	May 2017	May 2018	158	8,160.31	N		

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy										Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 04: Other Weapons / BSA 2: Modification of Guns And Gun Mounts							P-1 Line Item Number / Title: 4205 / Close-In Wpns Sys (CIWS) Mods					
ID Code (A=Service Ready, B=Not Service Ready): A				Program Elements for Code B Items: N/A				Other Related Program Elements: N/A				
Line Item MDAP/MAIS Code: N/A												
Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	1,573.369	50.900	72.698	63.318	0.000	63.318	83.951	74.690	37.037	33.601	94.881	2,084.445
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	1,573.369	50.900	72.698	63.318	0.000	63.318	83.951	74.690	37.037	33.601	94.881	2,084.445
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	1,573.369	50.900	72.698	63.318	0.000	63.318	83.951	74.690	37.037	33.601	94.881	2,084.445
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
<p>Description:</p> <p>Phalanx Close-In Weapon System (CIWS) is an autonomous combat system that searches, detects, tracks (radar and electro-optic), and engages threats with a 20mm Gatling gun capable of firing 4,500 tungsten penetrator rounds per minute. Integral to ship self-defense and the anti-air warfare "defense-in-depth" concept, CIWS provides terminal defense against anti-ship missiles and high-speed aircraft penetrating other fleet defenses. Phalanx CIWS can operate autonomously or be integrated with a ship's combat system.</p> <p>The Block 1B configuration provides further defense against asymmetric threats such as small, fast surface craft, slow-flying fixed and rotary-winged aircraft, and unmanned aerial vehicles through the addition of an integrated Forward-Looking Infra-Red (FLIR) sensor. Block 1B also incorporates an Optimized Gun Barrel (OGB) for tighter ordnance dispersion. Enhanced Lethality Cartridges (ELC) can be used with the OGB for improved target penetration.</p> <p>The CIWS SeaRAM is a CIWS Phalanx Block 1B with the 20mm Gatling gun removed and replaced by an eleven round guide that utilizes the Rolling Airframe Missile (RAM) Block 1A or Block 2 missiles for extended Anti-Ship Missile coverage. The resulting system is designated MK 15 Mod 31/32 CIWS SeaRAM and shares a minimum of 85% hardware and software commonality of the CIWS Phalanx system. CIWS SeaRAM is installed on LCS Independence class and 4 ROTA based DDGs.</p> <p>[DT6IN/DT8IN]Installation funding includes all planning and execution requirements for ship installations. Planning efforts include Design Service Allocation (DSA) efforts associated with the planning yard ship checks, Ship Installation Drawing (SID) development, installation on-site support and Ship Selected Record (SSR) updates. Execution efforts include shipyard planning, shipyard support services, installation material procurement, and Alteration Installation Team (AIT) efforts. Installations include the Rota DDG SeaRAM installs on DDGs 51, 79, 80 and 84; the CG Modernization installation on CG 68 and the installation support for the Navy Type Navy Owned (NTNO) Coast Guard WMSLs.</p> <p>[P5 / DT001 CIWS BLOCK 1B]: As part of the Block 1B Reliability, Maintainability and Availability (RM&A) Roadmap effort, this line is an upgrade/conversion to CIWS incorporating a stabilized thermal imager and an automatic acquisition video tracker that provides the additional capability to engage small, high speed, maneuvering surface craft and low, slow aircraft and helicopters. The thermal imager also improves performance against Anti-Ship Cruise Missiles by providing more accurate angle tracking information to the fire control computer. CIWS Block 1B is scheduled to be installed on the following ship classes: CGs, CVNs, DDGs, LCCs, LHAs, LHDs, LSDs, WMSLs and trainers. The installations will be completed during a limited availability by Shipalt/AIT. The budget also provides for the procurement support costs (e.g., production engineering), development and fielding of future ECPs and ORDALTs, Sensor Upgrade Material, and the SeaRAM on ROTA.</p>												

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy							Date: February 2018				
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 04: Other Weapons / BSA 2: Modification of Guns And Gun Mounts						P-1 Line Item Number / Title: 4205 / Close-In Wpns Sys (CIWS) Mods					
ID Code (A=Service Ready, B=Not Service Ready): A				Program Elements for Code B Items: N/A				Other Related Program Elements: N/A			
Line Item MDAP/MAIS Code: N/A											
Exhibits Schedule					Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	
P-5	1 / Close-In Wpns Sys (CIWS) Mods				- / 271.040	- / 44.498	- / 69.488	- / 55.268	- / 0.000	- / 55.268	
P-3a	1 / Block 1B Baseline 2 Radar Upgrades (ECP/ORDALT)				- / 187.359	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	
P-3a	2 / CIWS Block 1 B (Phalanx CIWS Block 1)				- / 1,114.970	- / 6.402	- / 3.210	- / 8.050	- / 0.000	- / 8.050	
P-40	Total Gross/Weapon System Cost				- / 1,573.369	- / 50.900	- / 72.698	- / 63.318	- / 0.000	- / 63.318	
Exhibits Schedule					FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total	
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	
P-5	1 / Close-In Wpns Sys (CIWS) Mods				- / -	- / -	- / -	- / -	- / -	- / -	
P-3a	1 / Block 1B Baseline 2 Radar Upgrades (ECP/ORDALT)				- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 187.359	
P-3a	2 / CIWS Block 1 B (Phalanx CIWS Block 1)				- / 25.250	- / 9.000	- / 1.600	- / 0.000	- / 0.000	- / 1,168.482	
P-40	Total Gross/Weapon System Cost				- / 83.951	- / 74.690	- / 37.037	- / 33.601	- / 94.881	- / 2,084.445	
*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.											
Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.											
Justification: There are 231 U.S. shipboard systems, 4 trainers and 3 Engineering Development Module (EDM)/Periodic Conformance Inspection (PCI) mounts procured in the Program of Record. This budget provides for installation of 4 Coast Guard Maritime Security Cutter Large (WMSLs) and 2 CG-71 systems procured under separate budget line items. This budget also provides for the installation of 2 LSD systems reconstituted from decommissioned assets. This budget provides for the procurement of CIWS Reliability, Maintainability and Availability (RM&A) roadmap that will provide system improvements and allow time between Class "A" overhauls to be extended while still maintaining an acceptable operational availability (Ao). The RM&A Kit #1 improvements include the following: coolant pump with improved impeller, long-life gyros, Transmitter Mode Control Unit (TMCU) improvement, Built-in-Test Equipment (BITE) Control Circuit Card Assembly (CCA), Waveguide Air Dryer System (WADS) piston compressor, WADS water separator, Gun and Ammunition Handling System (GAHS) chuting, gun cradle cable assembly, main cable reliability improvements, and resolver improvements. The RM&A Kit #2 improvements primarily include Higher Reliability Phalanx Thermal Imager (HRPTI). These RM&A improvements will be installed during overhauls or by standalone shipboard Alteration Installation Teams (AIT). FY 2019 - FY 2022 increase for CRDC (CIWS RAM Defense Capability) to improve sensor capability. The CRDC is fielded aboard CVN class ships. This line provides for Hardware procurement, installation hardware and labor for AIT, ISEA, contractor support and initial ILS support. FY 2019 increase funding to support additional installations on board DDGs. The FY 2019 funding request was reduced by \$0.096 million to reflect the Department of Navy's effort to support the Office of Management and Budget directed reforms for Efficiency and Effectiveness that include a lean, accountable, more efficient government.											

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Exhibit P-5, Cost Analysis: PB 2019 Navy												Date: February 2018							
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 04 / 2						P-1 Line Item Number / Title: 4205 / Close-In Wpns Sys (CIWS) Mods						Item Number / Title [DODIC]: 1 / Close-In Wpns Sys (CIWS) Mods							
ID Code (A=Service Ready, B=Not Service Ready) :									MDAP/MAIS Code:										
Resource Summary				Prior Years		FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total					
Procurement Quantity <i>(Units in Each)</i>				-		-		-		-		-		-					
Gross/Weapon System Cost <i>(\$ in Millions)</i>				271.040		44.498		69.488		55.268		0.000		55.268					
Less PY Advance Procurement <i>(\$ in Millions)</i>				-		-		-		-		-		-					
Net Procurement (P-1) <i>(\$ in Millions)</i>				271.040		44.498		69.488		55.268		0.000		55.268					
Plus CY Advance Procurement <i>(\$ in Millions)</i>				-		-		-		-		-		-					
Total Obligation Authority <i>(\$ in Millions)</i>				271.040		44.498		69.488		55.268		0.000		55.268					
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)																			
Initial Spares <i>(\$ in Millions)</i>				-		-		-		-		-		-					
Gross/Weapon System Unit Cost <i>(\$ in Dollars)</i>				-		-		-		-		-		-					
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																			
Cost Elements		Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
		Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
Hardware - DT001 CIWS BLOCK 1B Cost																			
Recurring Cost																			
1.1.1) Trainer Installation	74,250.00	4	0.297	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	
1.1.2) ECP/ORDALT	-	-	33.354	-	-	3.058	-	-	3.118	-	-	3.179	-	-	0.000	-	-	3.179	
1.1.3) TRAINER UPGRADE/ CONVERSION	1,908K	4	7.633	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	
1.1.4) TRAINER	1,916K	4	7.666	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	
1.1.5) BLOCK 1B RM&A ROADMAP ⁽¹⁾	-	-	38.946	-	-	17.804	-	-	20.266	-	-	23.952	-	-	0.000	-	-	23.952	
1.1.6) GRAY RADOMES	-	-	1.880	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	
1.1.7) PRODUCTION ENGINEERING	-	-	114.124	-	-	3.636	-	-	3.784	-	-	3.883	-	-	0.000	-	-	3.883	
1.1.8) Sensor Upgrades ⁽²⁾	-	-	31.200	-	-	20.000	-	-	12.500	-	-	24.254	-	-	0.000	-	-	24.254	
1.1.9) SeaRAM ROTA DDG	-	-	35.940	-	-	0.000	-	-	29.820	-	-	0.000	-	-	0.000	-	-	0.000	
Subtotal: Recurring Cost	-	-	271.040	-	-	44.498	-	-	69.488	-	-	55.268	-	-	0.000	-	-	55.268	
Subtotal: Hardware - DT001 CIWS BLOCK 1B Cost	-	-	271.040	-	-	44.498	-	-	69.488	-	-	55.268	-	-	0.000	-	-	55.268	
Gross/Weapon System Cost	-	-	271.040	-	-	44.498	-	-	69.488	-	-	55.268	-	-	0.000	-	-	55.268	

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Exhibit P-5, Cost Analysis: PB 2019 Navy		Date: February 2018
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 04 / 2	P-1 Line Item Number / Title: 4205 / Close-In Wpns Sys (CIWS) Mods	Item Number / Title [DODIC]: 1 / Close-In Wpns Sys (CIWS) Mods
ID Code (A=Service Ready, B=Not Service Ready) :		MDAP/MAIS Code:
Footnotes: (1) Funding supports Block 1B RM&A Roadmap efforts and upgrade to CIWS incorporating a stabilized thermal imager and an automatic acquisition video tracker. (2) FY 2019-FY 2022 increase for CRDC (CIWS RAM Defense Capability) to improve sensor capability. The CRDC is fielded aboard CVN class ships. This line provides for Hardware procurement, installation hardware and labor for AIT, ISEA, contractor support and initial ILS support. The FY 2019 funding supports 9 shipsets and installation on 3 CVNs.		

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Exhibit P-3a, Individual Modification: PB 2019 Navy						Date: February 2018					
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 04 / 2				P-1 Line Item Number / Title: 4205 / Close-In Wpns Sys (CIWS) Mods				Modification Number / Title: 1 / Block 1B Baseline 2 Radar Upgrades			

ID Code (A=Service Ready, B=Not Service Ready) :						MDAP/MAIS Code:						
Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity <i>(Units in Each)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost <i>(\$ in Millions)</i>	187.359	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	187.359
Less PY Advance Procurement <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) <i>(\$ in Millions)</i>	187.359	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	187.359
Plus CY Advance Procurement <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority <i>(\$ in Millions)</i>	187.359	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	187.359
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost <i>(\$ in Dollars)</i>	-	-	-	-	-	-	-	-	-	-	-	-

Description:

The CIWS Block 1B Baseline 2 Radar Upgrade (RUG) Kit is required for CGs, CVNs, DDGs, LCCs, LHAs, LHDs, LPDs, LSDs and WMSLs platforms. The CIWS Block 1B Baseline 2 RUG kit is new state of the art digital radar that provides improved performance and increased reliability. It mitigates 200 obsolete components inherent in the existing analog radar by introducing advanced COTS-based signal processing coupled with new low noise signal source. It provides a 2x sensitivity increase along with expanded Doppler (velocity) coverage required for detection and tracking of advanced ASCM and asymmetric threats, provides a 10% increase in system level reliability and provides a 15% reduction in sailor man-hours required for CIWS planned system maintenance.

FY 2016 was the last year of procurement for Radar Upgrade (RUG) Kits.

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Exhibit P-3a, Individual Modification: PB 2019 Navy										Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 04 / 2				P-1 Line Item Number / Title: 4205 / Close-In Wpns Sys (CIWS) Mods						Modification Number / Title: 1 / Block 1B Baseline 2 Radar Upgrades			
ID Code (A=Service Ready, B=Not Service Ready) :								MDAP/MAIS Code:					
Models of Systems Affected: CIWS Block 1B Block 1B Baseline 2 Radar Upgrades				Modification Type: ECP/ORDALT				Related RDT&E PEs:					
Financial Plan	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total	
	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	
Procurement													
<i>Modification Item 1 of 1:</i> Block 1B Baseline 2 Radar Upgrades													
B Kits													
Recurring													
1.1.1) Block 1B Baseline 2 Radar Upgrades - Organic	259 / 187.359	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	259 / 187.359	
<i>Subtotal: Recurring</i>	<i>- / 187.359</i>	<i>- / -</i>	<i>- / -</i>	<i>- / -</i>	<i>- / -</i>	<i>- / -</i>	<i>- / -</i>	<i>- / -</i>	<i>- / -</i>	<i>- / -</i>	<i>- / 0.000</i>	<i>- / 187.359</i>	
<i>Subtotal: Block 1B Baseline 2 Radar Upgrades</i>	<i>259 / 187.359</i>	<i>- / -</i>	<i>- / -</i>	<i>- / -</i>	<i>- / -</i>	<i>- / -</i>	<i>- / -</i>	<i>- / -</i>	<i>- / -</i>	<i>- / -</i>	<i>- / -</i>	<i>259 / 187.359</i>	
<i>Subtotal: Procurement, All Modification Items</i>	<i>- / 187.359</i>	<i>- / -</i>	<i>- / -</i>	<i>- / -</i>	<i>- / -</i>	<i>- / -</i>	<i>- / -</i>	<i>- / -</i>	<i>- / -</i>	<i>- / -</i>	<i>- / 0.000</i>	<i>- / 187.359</i>	
Installation													
<i>Subtotal: Installation</i>	<i>- / -</i>	<i>- / -</i>	<i>- / -</i>	<i>- / -</i>	<i>- / -</i>	<i>- / -</i>	<i>- / -</i>	<i>- / -</i>	<i>- / -</i>	<i>- / -</i>	<i>- / -</i>	<i>- / -</i>	
Total													
Total Cost (Procurement + Support + Installation)	187.359	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	187.359	

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Exhibit P-3a, Individual Modification: PB 2019 Navy				Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 04 / 2			P-1 Line Item Number / Title: 4205 / Close-In Wpns Sys (CIWS) Mods			Modification Number / Title: 1 / Block 1B Baseline 2 Radar Upgrades	
ID Code (A=Service Ready, B=Not Service Ready) :				MDAP/MAIS Code:			
Modification Item 1 of 1: Block 1B Baseline 2 Radar Upgrades							
Manufacturer Information							
Manufacturer Name: Raytheon CO				Manufacturer Location: Louisville KY			
Administrative Leadtime (in Months): 3				Production Leadtime (in Months): 12			
Dates	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
Contract Dates							
Delivery Dates							

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Exhibit P-3a, Individual Modification: PB 2019 Navy										Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 04 / 2				P-1 Line Item Number / Title: 4205 / Close-In Wpns Sys (CIWS) Mods						Modification Number / Title: 2 / CIWS Block 1 B		
ID Code (A=Service Ready, B=Not Service Ready) :							MDAP/MAIS Code:					
Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	1,114.970	6.402	3.210	8.050	0.000	8.050	25.250	9.000	1.600	0.000	0.000	1,168.482
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	1,114.970	6.402	3.210	8.050	0.000	8.050	25.250	9.000	1.600	0.000	0.000	1,168.482
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	1,114.970	6.402	3.210	8.050	0.000	8.050	25.250	9.000	1.600	0.000	0.000	1,168.482
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)												
Initial Spares (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Dollars)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

The Block 1B surface mount includes the addition of a thermal imager, an automatic acquisition video tracker, and stabilization system for the tracker. The upgrade is essential to provide the Fleet capability against small high speed surface threats and low speed air threats.

[CIWS Block 1B] Installation schedule reflects the installation and the CIWS Block 1B and the modification kits CIWS Block 1B conversion upgrade. These 2 cost elements are incorporated into the mount at the factory and the complete mount is installed. The installation schedule includes 239 shipboard systems in the Program of Record (POR) and an additional 4 WMSL, 2 CG47 TICONDEROGA class and 4 SeaRAM systems for Rota-based DDGs procured under separate budget line items. This budget also provides for the installation of 2 LSD systems reconstituted from decommissioned assets. The budget also provides for the Design Service Allocation (DSA) efforts associated with the planning year ship checks, Ship Installation Drawing (SID) development, installation on-site support and Ship Selected Record (SSR) updates.

FY 2019 increase funding to support additional installations on board DDGs.

[Cruiser Mod Plan] USS ANZIO (CG 68) is the remaining non-Block 1B configured ship. CG 68 was originally in our WPN Program of Record for upgrade to Block 1B, but was placed on the decommissioning list, and therefore removed from the WPN POR budget. The Cruiser Modernization program subsequently removed CG 68 from the decommissioning list.

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Exhibit P-3a, Individual Modification: PB 2019 Navy										Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 04 / 2				P-1 Line Item Number / Title: 4205 / Close-In Wpns Sys (CIWS) Mods						Modification Number / Title: 2 / CIWS Block 1 B			
ID Code (A=Service Ready, B=Not Service Ready) :								MDAP/MAIS Code:					
Models of Systems Affected: DT001 CIWS Block 1B CIWS Block 1B				Modification Type: Phalanx CIWS Block 1				Related RDT&E PEs:					
Financial Plan	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total	
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	
Procurement													
Modification Item 1 of 1: CIWS Block 1 B													
B Kits													
Non-Recurring													
1.1.1) CIWS Block 1B - NonOrganic	239 / 505.717	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	239 / 505.717	
1.1.2) Modification Kits CIWS Block 1B Conversion and Upgrade - Organic	- / 464.686	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 464.686	
1.1.3) Cruiser Mod Plan - NonOrganic	- / -	- / -	- / -	- / -	- / -	- / -	- / 10.900	- / -	- / -	- / -	- / -	- / 10.900	
Subtotal: Non-Recurring	- / 970.403	- / -	- / -	- / -	- / -	- / -	- / 10.900	- / -	- / -	- / -	- / 0.000	- / 981.303	
Subtotal: CIWS Block 1 B	239 / 970.403	- / -	- / -	- / -	- / -	- / -	- / 10.900	- / -	- / -	- / -	- / -	239 / 981.303	
Subtotal: Procurement, All Modification Items	- / 970.403	- / -	- / -	- / -	- / -	- / -	- / 10.900	- / -	- / -	- / -	- / 0.000	- / 981.303	
Installation													
Modification Item 1 of 1: CIWS Block 1 B	- / 144.567	- / 6.402	- / 3.210	- / 8.050	- / 0.000	- / 8.050	- / 14.350	- / 9.000	- / 1.600	- / 0.000	- / 0.000	- / 187.179	
Subtotal: Installation	- / 144.567	- / 6.402	- / 3.210	- / 8.050	- / -	- / 8.050	- / 14.350	- / 9.000	- / 1.600	- / -	- / 0.000	- / 187.179	
Total													
Total Cost (Procurement + Support + Installation)	1,114.970	6.402	3.210	8.050	0.000	8.050	25.250	9.000	1.600	0.000	0.000	1,168.482	

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Exhibit P-3a, Individual Modification: PB 2019 Navy										Date: February 2018																					
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 04 / 2										P-1 Line Item Number / Title: 4205 / Close-In Wpns Sys (CIWS) Mods										Modification Number / Title: 2 / CIWS Block 1 B											
ID Code (A=Service Ready, B=Not Service Ready) :															MDAP/MAIS Code:																
Modification Item 1 of 1: CIWS Block 1 B																															
Manufacturer Information																															
Manufacturer Name: Raytheon Co															Manufacturer Location: Louisville KY																
Administrative Leadtime <i>(in Months)</i> : 6															Production Leadtime <i>(in Months)</i> : 31																
Dates		FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023					
Contract Dates						Mar 2018				Jan 2019				Jan 2020				Jan 2021				Jan 2022				Jan 2023					
Delivery Dates						Oct 2020				Aug 2021				Aug 2022				Aug 2023				Aug 2024				Aug 2025					
Installation Information																															
Method of Implementation: Non-Recurring:: Installation Name: BKits																															
Installation Cost		Prior Years		FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total		FY 2020		FY 2021		FY 2022		FY 2023		To Complete		Total							
		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)							
Prior Years		239 / 144.567		3 / 6.402		1 / 3.210		2 / 8.050		0 / 0.000		2 / 8.050		1 / 14.350		4 / 9.000		0 / 1.600		- / -		0 / 0.000		250 / 187.179							
FY 2017		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -							
FY 2018		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -							
FY 2019		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -							
FY 2020		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -							
FY 2021		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -							
FY 2022		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -							
FY 2023		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -							
To Complete		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -							
Total		239 / 144.567		3 / 6.402		1 / 3.210		2 / 8.050		0 / 0.000		2 / 8.050		1 / 14.350		4 / 9.000		0 / 1.600		- / -		0 / 0.000		250 / 187.179							
Installation Schedule																															
	PYS	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				TC	Tot
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
In	239	1	-	1	1	-	-	1	-	-	2	-	-	-	1	-	-	1	-	2	1	-	-	-	-	-	-	-	-	-	250
Out	238	1	1	-	1	-	-	-	2	-	-	-	1	-	-	1	-	-	1	-	-	1	1	-	2	-	-	-	-	-	250

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy										Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 04: Other Weapons / BSA 2: Modification of Guns And Gun Mounts							P-1 Line Item Number / Title: 4206 / Coast Guard Weapons					
ID Code (A=Service Ready, B=Not Service Ready): A				Program Elements for Code B Items: N/A				Other Related Program Elements: N/A				
Line Item MDAP/MAIS Code: N/A												
Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	102.307	25.295	38.931	40.823	0.000	40.823	53.963	57.121	55.829	56.947	Continuing	Continuing
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	102.307	25.295	38.931	40.823	0.000	40.823	53.963	57.121	55.829	56.947	Continuing	Continuing
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	102.307	25.295	38.931	40.823	0.000	40.823	53.963	57.121	55.829	56.947	Continuing	Continuing
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	0.228	0.810	0.388	-	0.388	0.722	0.634	0.696	0.710	Continuing	Continuing
Flyaway Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
<p>Description:</p> <p>The Coast Guard Weapons line funds the Coast Guard combat system suite for the United States Coast Guard (USCG) cutters under the Coast Guard surface asset acquisition program. Under inter-service agreement (delineated in OPNAVINST 4000.79B), DON plans, programs, and budgets for specific Navy military equipment, systems and logistic support requirements for USCG units to ensure the USCG is prepared to execute naval warfare tasks in consonance with United States Navy (USN) units. Ship construction and installation costs are funded under the Department of Homeland Security appropriation.</p> <p>The combat systems and weapons suite will be aligned with future naval ship building programs to support commonality among the two service's systems and meet national fleet objectives. The combat system suite must complement and integrate with Navy combat systems. The suite is an appropriate balance of equipment to ensure the USCG is prepared to accomplish the assigned naval warfare tasks in concert with USN units. The surface asset acquisition program combat suites include the following:</p> <p>[P5 / CG002 MK 110 GUN]: Provides the MK 110 gun to engage surface threats, independently or in cooperation with other forces, achieving mission kill on high-speed coastal patrol craft beyond small and intermediate caliber gunfire effective range. Includes gun mount, equipment procurement, recurring engineering, and ILS support for the Coast Guard Maritime Security Cutter Large (WMSL) and the Offshore Patrol Cutter (OPC) in accordance with OPNAVINST 4000.79B and the Naval Operational Capabilities (NOC) document.</p> <p>[P5 / CG003 MK 160 GCS]: Provides the MK 160 Mod 12 Gun Computer System (GCS) including equipment procurement, production support, systems engineering, data, and software and test support for the WMSL Class and the OPC Class. The MK 160 GCS is required to plan and direct surface threat engagements including the capability to fire warning shots, disabling fire and achieve mission kill against these threats in accordance with National Fleet Policy, OPNAVINST 4000.79B, and the NOC.</p> <p>FY 2017 - 2018 MK 160 GCS Software Update will upgrade the MK 160 GCS software load for Offshore Patrol Cutters (OPC). Software will be upgraded from previous revisions to integrate the MK 20 Mod 2 Electro-Optical Sight Sensor and to receive Multi-Mode Radar video. The planned software upgrade is required to fully operate and employ the MK 160 GCS as part of the overall MK 48 Gun Weapon System on the OPC.</p> <p>[P5 / CG004 MK 38 MACHINE GUN SYSTEMS]: Provides the MK 38 Mod 2/3 Machine Gun System (MGS) to plan and engage surface threats, achieving missions kill on high speed patrol craft beyond minor caliber gunfire effective range in accordance with OPNAVINST 4000.79B and the NOC. The MK 38 Mod 3 (vice Mod 2), which began production in FY 2015, permits greater effective range, greater range of elevation to engage air targets, and an improved Toplite electro-optical (EO) system. The MK 38 MGS increases shipboard self defense against small boat threats and is the main gun of the Fast Response Cutter (FRC) and the OPC Class. Includes the MK 38 gun mount, Toplite, cannon, and ancillary components, recurring engineering, outfitting spares, and integrated logistics support (ILS).</p>												

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy		Date: February 2018
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 04: Other Weapons / BSA 2: Modification of Guns And Gun Mounts		P-1 Line Item Number / Title: 4206 / Coast Guard Weapons
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: N/A		
<p>[P5 / CG005 COMBAT SYSTEM INTEGRATION]: Ensures successful integration and system interoperability of Navy type equipment that affects the combat system of USCG National Security Cutters (WMSLs), Fast Response Cutters (FRCs), and Offshore Patrol Cutters (OPC). Includes weapon system integration support for the OPC ATHENA Control, Correlation & Display (CCD) System which provides target queuing for Gun Weapon System engagements.</p>		

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy								Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 04: Other Weapons / BSA 2: Modification of Guns And Gun Mounts						P-1 Line Item Number / Title: 4206 / Coast Guard Weapons				
ID Code (A=Service Ready, B=Not Service Ready): A				Program Elements for Code B Items: N/A			Other Related Program Elements: N/A			
Line Item MDAP/MAIS Code: N/A										
Exhibits Schedule					Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	1 / Coast Guard Weapons	P-5a, P-21			- / 102.307	- / 25.295	- / 38.931	- / 40.823	- / 0.000	- / 40.823
P-40	Total Gross/Weapon System Cost				- / 102.307	- / 25.295	- / 38.931	- / 40.823	- / 0.000	- / 40.823
<p>*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.</p> <p>Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.</p>										
<p>Justification:</p> <p>FY 2019 increase in funding due to increase in procurement for two 57 MM Gun and associated integrated logistics support (ILS) support.</p> <p>FY 2019 funding supports the procurement of Navy Type/Navy Owned (NT/NO) weapon systems, integrated logistics support (ILS), technical documentation, software, test and production support for USCG National Security Cutters (WMSLs), Fast Response Cutters (FRCs), and Offshore Patrol Cutters (OPC) being constructed under the Coast Guard Surface Asset Acquisition Program.</p> <p>FY 2019 funds the following Coast Guard Weapon items for USCG cutters: procure MK 110 guns and associated ILS; procure MK 160 Gun Computer System and associated support; provide MK 160 test support; procure the MK 38 Machine Gun System, associated spares/equipment, and ILS support; provide combat system integration support; procure and integrate the ATHENA Control, Correlation & Display (CCD) System on OPCs, which provides target queuing for Gun Weapon System engagements. The MK 110 and the MK 38 are the primary weapon systems of the FRC and OPC respectively and are critical to their self-defense capabilities.</p> <p>To support the construction schedule of the Department of Homeland Security addition of National Security Cutter (NSC) #9, the MK 110 gun originally funded in FY 2018 was required in FY 2017. Funds were reallocated from MK38 (CG004) to MK 110 (CG002) in FY 2017 to meet this requirement. FY 2018 MK110 funds will be allocated to procure the MK38s for USCG Fast Response Cutters for installation during a post-delivery availability in 2019.</p> <p>The FY 2019 funding request was reduced by \$0.019 million to reflect the Department of Navy's effort to support the Office of Management and Budget directed reforms for Efficiency and Effectiveness that include a lean, accountable, more efficient government.</p>										

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Exhibit P-5, Cost Analysis: PB 2019 Navy											Date: February 2018							
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 04 / 2						P-1 Line Item Number / Title: 4206 / Coast Guard Weapons						Item Number / Title [DODIC]: 1 / Coast Guard Weapons						
ID Code (A=Service Ready, B=Not Service Ready) :									MDAP/MAIS Code:									
Resource Summary				Prior Years		FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total				
Procurement Quantity <i>(Units in Each)</i>				-		-		-		-		-		-				
Gross/Weapon System Cost <i>(\$ in Millions)</i>				102.307		25.295		38.931		40.823		0.000		40.823				
Less PY Advance Procurement <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Net Procurement (P-1) <i>(\$ in Millions)</i>				102.307		25.295		38.931		40.823		0.000		40.823				
Plus CY Advance Procurement <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Total Obligation Authority <i>(\$ in Millions)</i>				102.307		25.295		38.931		40.823		0.000		40.823				
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)																		
Initial Spares <i>(\$ in Millions)</i>				-		0.228		0.810		0.388		-		0.388				
Gross/Weapon System Unit Cost <i>(\$ in Dollars)</i>				-		-		-		-		-		-				
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
Hardware - CG002 MK 110 GUN Cost																		
Recurring Cost																		
1.1.1) 57MM GUN ^(†) (1)	8,131K	5	40.656	8,490K	2	16.980	8,855K	1	8.855	9,023K	2	18.046	-	-	-	9,023K	2	18.046
1.1.2) ILS SUPPORT (2)	-	-	11.345	-	-	1.112	-	-	1.702	-	-	3.408	-	-	-	-	-	3.408
Subtotal: Recurring Cost	-	-	52.001	-	-	18.092	-	-	10.557	-	-	21.454	-	-	-	-	-	21.454
Subtotal: Hardware - CG002 MK 110 GUN Cost	-	-	52.001	-	-	18.092	-	-	10.557	-	-	21.454	-	-	-	-	-	21.454
Hardware - CG003 MK 160 GCS Cost																		
Recurring Cost																		
2.1.1) SYSTEM ENGINEERING SUPPORT	-	-	1.340	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.1.2) PRODUCTION SUPPORT	-	-	3.748	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.1.3) DATA	-	-	1.277	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.1.4) SOFTWARE & TEST SUPPORT	-	-	1.427	-	-	0.250	-	-	0.250	-	-	-	-	-	-	-	-	-
2.1.5) ANCILLARY EQUIPMENT ^(†)	522,500.00	2	1.045	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.1.6) GUN COMPUTER SYSTEM ^(†)	1,882K	1	1.882	1,506K	1	1.506	1,535K	3	4.605	1,564K	3	4.692	-	-	-	1,564K	3	4.692

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Exhibit P-5, Cost Analysis: PB 2019 Navy												Date: February 2018						
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 04 / 2						P-1 Line Item Number / Title: 4206 / Coast Guard Weapons						Item Number / Title [DODIC]: 1 / Coast Guard Weapons						
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:								
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
2.1.7) MK160 GCS SOFTWARE UPDATE OPC ⁽³⁾	-	-	0.664	-	-	0.756	-	-	0.480	-	-	0.648	-	-	-	-	-	0.648
2.1.8) ILS SUPPORT	-	-	1.266	-	-	-	-	-	0.158	-	-	0.468	-	-	-	-	-	0.468
Subtotal: Recurring Cost	-	-	12.649	-	-	2.512	-	-	5.493	-	-	5.808	-	-	-	-	-	5.808
Subtotal: Hardware - CG003 MK 160 GCS Cost	-	-	12.649	-	-	2.512	-	-	5.493	-	-	5.808	-	-	-	-	-	5.808
Hardware - CG004 MK 38 MACHINE GUN SYSTEMS Cost																		
Recurring Cost																		
3.1.1) MACHINE GUN SYSTEM EQUIPMENT FRC ^(†)	872,000.00	31	27.032	1,230K	1	1.230	1,254K	11	13.794	1,278K	6	7.668	-	-	-	1,278K	6	7.668
3.1.2) MACHINE GUN SYSTEM EQUIPMENT OPC ^(†)	-	-	-	1,230K	1	1.230	1,254K	1	1.254	1,278K	1	1.278	-	-	-	1,278K	1	1.278
3.1.3) ILS SUPPORT FRC	-	-	5.589	-	-	0.675	-	-	3.988	-	-	2.376	-	-	-	-	-	2.376
3.1.4) ILS SUPPORT OPC	-	-	-	-	-	0.381	-	-	0.399	-	-	0.396	-	-	-	-	-	0.396
Subtotal: Recurring Cost	-	-	32.621	-	-	3.516	-	-	19.435	-	-	11.718	-	-	-	-	-	11.718
Subtotal: Hardware - CG004 MK 38 MACHINE GUN SYSTEMS Cost	-	-	32.621	-	-	3.516	-	-	19.435	-	-	11.718	-	-	-	-	-	11.718
Support - CG005 COMBAT SYSTEM INTEGRATION Cost																		
4.1) CSI ⁽⁴⁾	-	-	5.036	-	-	1.175	-	-	3.446	-	-	1.843	-	-	-	-	-	1.843
Subtotal: Support - CG005 COMBAT SYSTEM INTEGRATION Cost	-	-	5.036	-	-	1.175	-	-	3.446	-	-	1.843	-	-	-	-	-	1.843
Gross/Weapon System Cost	-	-	102.307	-	-	25.295	-	-	38.931	-	-	40.823	-	-	0.000	-	-	40.823
(†) indicates the presence of a P-5a																		
Footnotes:																		
(1) FY 2019 increase in funding due to procurement of two 57 MM Gun.																		
(2) FY 2019 MK110 ILS support increase attributed to procurement of an additional gun mount for the WMSL 758.																		

(†) indicates the presence of a P-5a

Footnotes:

- (1) FY 2019 increase in funding due to procurement of two 57 MM Gun.
 (2) FY 2019 MK110 ILS support increase attributed to procurement of an additional gun mount for the WMSL 758.

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Exhibit P-5, Cost Analysis: PB 2019 Navy		Date: February 2018
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 04 / 2	P-1 Line Item Number / Title: 4206 / Coast Guard Weapons	Item Number / Title [DODIC]: 1 / Coast Guard Weapons
ID Code (A=Service Ready, B=Not Service Ready) :		MDAP/MAIS Code:
<p>(3) MK 160 GCS software update funds provide non-recurring engineering to upgrade the MK 160 GCS software for Offshore Patrol Cutters (OPC). Software will be upgraded from previous revisions to integrate the MK 20 Mod 2 Electro-Optical Sight Sensor and to receive Multi-Mode Radar video. The planned software upgrade is required to fully operate and employ the MK 160 GCS as part of the overall MK 48 Gun Weapon System on the OPC.</p> <p>(4) FY 2018 increase attributed to additional integration efforts required for the OPC ATHENA Control, Correlation & Display (CCD) System which provides target queuing for Gun Weapon System engagements.</p>		

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Exhibit P-5a, Procurement History and Planning: PB 2019 Navy								Date: February 2018				
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 04 / 2				P-1 Line Item Number / Title: 4206 / Coast Guard Weapons				Item Number / Title [DODIC]: 1 / Coast Guard Weapons				

Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$)	Specs Avail Now?	Date Revision Available	RFP Issue Date
1.1.1) 57MM GUN ^(†)		2013	BAE SYSTEMS / MINNEAPOLIS, MN	SS / FP	NAVSEA	Sep 2014	Sep 2016	1	8,600K	Y		Jun 2010
1.1.1) 57MM GUN ^(†)		2015	BAE SYSTEMS / MINNEAPOLIS, MN	SS / FP	NAVSEA	Oct 2015	Oct 2017	1	8,097K	Y		Oct 2013
1.1.1) 57MM GUN ^(†)		2016	BAE SYSTEMS / MINNEAPOLIS, MN	SS / FP	NAVSEA	Dec 2015	Dec 2017	1	8,528K	Y		Oct 2013
1.1.1) 57MM GUN ^(†)		2017	BAE SYSTEMS / MINNEAPOLIS, MN	SS / FP	NAVSEA	Aug 2017	Aug 2019	2	8,490K	Y		Aug 2016
1.1.1) 57MM GUN ^(†)		2018	BAE SYSTEMS / MINNEAPOLIS, MN	SS / FP	NAVSEA	Mar 2018	Mar 2020	1	8,855K	Y		Aug 2016
1.1.1) 57MM GUN		2019	BAE SYSTEMS / MINNEAPOLIS, MN	C / TBD	TBD	Oct 2018	Oct 2020	2	9,023K	N		
2.1.5) ANCILLARY EQUIPMENT		2016	US Army Contracting Command / Picatinny Arsenal, NJ	MIPR	Picatinny, NJ	Aug 2016	Aug 2017	2	522,500.00	Y		Mar 2016
2.1.6) GUN COMPUTER SYSTEM		2017	LOCKHEED MARTIN / MANASSAS, VA	SS / FP	NAVSEA	Mar 2017	Dec 2017	1	1,506K	Y		Jan 2016
2.1.6) GUN COMPUTER SYSTEM		2018	LOCKHEED MARTIN / MANASSAS, VA	SS / FP	NAVSEA	Mar 2018	Dec 2018	3	1,535K	Y		Jan 2016
3.1.1) MACHINE GUN SYSTEM EQUIPMENT FRC ^(†)		2015	BAE SYSTEMS / MINNEAPOLIS, MN	SS / FP	NSWC IHD	Oct 2015	Oct 2016	4	1,185K	Y		Aug 2015
3.1.1) MACHINE GUN SYSTEM EQUIPMENT FRC ^(†)		2017	BAE SYSTEMS / MINNEAPOLIS, MN	SS / FP	NSWC IHD	Sep 2017	Sep 2018	1	1,230K	Y		Aug 2016
3.1.1) MACHINE GUN SYSTEM EQUIPMENT FRC ^(†)		2018	BAE SYSTEMS / MINNEAPOLIS, MN	SS / FP	NSWC IHD	Mar 2018	Mar 2019	11	1,254K	Y		Aug 2016
3.1.1) MACHINE GUN SYSTEM EQUIPMENT FRC ^(†)		2019	BAE SYSTEMS / MINNEAPOLIS, MN	C / TBD	TBD	Oct 2018	Oct 2019	6	1,278K	N		
3.1.2) MACHINE GUN SYSTEM EQUIPMENT OPC ^(†)		2017	BAE SYSTEMS / MINNEAPOLIS, MN	SS / FP	NSWC IHD	Mar 2017	Mar 2018	1	1,230K	Y		Aug 2015
3.1.2) MACHINE GUN SYSTEM EQUIPMENT OPC ^(†)		2018	BAE SYSTEMS / MINNEAPOLIS, MN	SS / FP	NSWC IHD	Mar 2018	Mar 2019	1	1,254K	Y		Aug 2015
3.1.2) MACHINE GUN SYSTEM EQUIPMENT OPC		2019	BAE SYSTEMS / MINNEAPOLIS, MN	C / TBD	TBD	Oct 2018	Oct 2019	1	1,278K	N		

^(†) indicates the presence of a P-21

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Exhibit P-21, Production Schedule: PB 2019 Navy																							Date: February 2018											
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 04 / 2										P-1 Line Item Number / Title: 4206 / Coast Guard Weapons													Item Number / Title [DODIC]: 1 / Coast Guard Weapons											
Cost Elements (Units in Each)							Fiscal Year 2014												Fiscal Year 2015												BALANCE			
OCO	MFR#	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2013	BAL DUE AS OF 1 OCT	Calendar Year 2014												Calendar Year 2015															
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP				
1.1.1) 57MM GUN ⁽¹⁾																																		
Prior Years Deliveries: 2																																		
	1	2013	NAVY		1	0	1													A -	-	-	-	-	-	-	-	-	-	-	-	-	-	1
	1	2015	NAVY		1	0	1																									1		
	1	2016	NAVY		1	0	1																									1		
	1	2017	NAVY		2	0	2																									2		
	1	2018	NAVY		1	0	1																									1		
3.1.1) MACHINE GUN SYSTEM EQUIPMENT FRC																																		
Prior Years Deliveries: 27																																		
	2	2015	NAVY		4	0	4																									4		
	2	2017	NAVY		1	0	1																									1		
	2	2018	NAVY		11 ⁽⁵⁾	0	11																									11		
	2	2019	NAVY		6	0	6																									6		
3.1.2) MACHINE GUN SYSTEM EQUIPMENT OPC																																		
	3	2017	NAVY		1	0	1																									1		
	3	2018	NAVY		1	0	1																									1		
								OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP			

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Exhibit P-21, Production Schedule: PB 2019 Navy																				Date: February 2018																
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 04 / 2										P-1 Line Item Number / Title: 4206 / Coast Guard Weapons										Item Number / Title [DODIC]: 1 / Coast Guard Weapons																
Cost Elements (Units in Each)							Fiscal Year 2016										Fiscal Year 2017														BALANCE					
OCCO	MFR#	FY	SERVICE	PROCQTY	ACCEPT PRIOR TO 1 OCT 2015	BAL DUE AS OF 1 OCT				Calendar Year 2016										Calendar Year 2017																
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP						
1.1.1) 57MM GUN ⁽¹⁾																																				
Prior Years Deliveries: 2																																				
	1	2013	NAVY	1	0	1	-	-	-	-	-	-	-	-	-	-	-	1																	0	
	1	2015	NAVY	1	0	1	A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1			
	1	2016	NAVY	1	0	1				A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1				
	1	2017	NAVY	2	0	2																												A -	-	2
	1	2018	NAVY	1	0	1																												1		
3.1.1) MACHINE GUN SYSTEM EQUIPMENT FRC																																				
Prior Years Deliveries: 27																																				
	2	2015	NAVY	4	0	4	A -	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-	-	1	-	-	1							0	
	2	2017	NAVY	1	0	1																												A -	1	
	2	2018	NAVY	11 ⁽⁵⁾	0	11																												11		
	2	2019	NAVY	6	0	6																												6		
3.1.2) MACHINE GUN SYSTEM EQUIPMENT OPC																																				
	3	2017	NAVY	1	0	1																	A -	-	-	-	-	-	-	-	1					
	3	2018	NAVY	1	0	1																												1		
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP						

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Exhibit P-21, Production Schedule: PB 2019 Navy																				Date: February 2018																			
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 04 / 2										P-1 Line Item Number / Title: 4206 / Coast Guard Weapons										Item Number / Title [DODIC]: 1 / Coast Guard Weapons																			
Cost Elements (Units in Each)							Fiscal Year 2018										Fiscal Year 2019													BALANCE									
OCCO	MFR#	FY	SERVICE	PROCQTY	ACCEPT PRIOR TO 1 OCT 2017	BAL DUE AS OF 1 OCT	Calendar Year 2018																			Calendar Year 2019													
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG		SEP								
1.1.1) 57MM GUN ⁽¹⁾																																							
Prior Years Deliveries: 2																																							
	1	2013	NAVY		1	1	0																											0					
	1	2015	NAVY		1	0	1	1																										0					
	1	2016	NAVY		1	0	1	-	-	1																								0					
	1	2017	NAVY		2	0	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1									
	1	2018	NAVY		1	0	1					A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1									
3.1.1) MACHINE GUN SYSTEM EQUIPMENT FRC																																							
Prior Years Deliveries: 27																																							
	2	2015	NAVY		4	4	0																											0					
	2	2017	NAVY		1	0	1	-	-	-	-	-	-	-	-	-	-	1																	0				
	2	2018	NAVY		11 ⁽⁵⁾	0	11					A	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-	1	-	1	7								
	2	2019	NAVY		6	0	6											A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6						
3.1.2) MACHINE GUN SYSTEM EQUIPMENT OPC																																							
	3	2017	NAVY		1	0	1	-	-	-	-	-	1																					0					
	3	2018	NAVY		1	0	1					A	-	-	-	-	-	-	-	-	-	-	-	1											0				
								OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP								

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Exhibit P-21, Production Schedule: PB 2019 Navy																				Date: February 2018												
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 04 / 2										P-1 Line Item Number / Title: 4206 / Coast Guard Weapons										Item Number / Title [DODIC]: 1 / Coast Guard Weapons												
Cost Elements (Units in Each)							Fiscal Year 2020										Fiscal Year 2021														BALANCE	
OCCO	MFR#	FY	SERVICE	PROCQTY	ACCEPT PRIOR TO 1 OCT 2019	BAL DUE AS OF 1 OCT	Calendar Year 2020										Calendar Year 2021															
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1.1.1) 57MM GUN ⁽¹⁾																																
Prior Years Deliveries: 2																																
	1	2013	NAVY		1	1	0																								0	
	1	2015	NAVY		1	1	0																								0	
	1	2016	NAVY		1	1	0																								0	
	1	2017	NAVY		2	1	1	-	1																						0	
	1	2018	NAVY		1	0	1	-	-	-	-	-	1																		0	
3.1.1) MACHINE GUN SYSTEM EQUIPMENT FRC																																
Prior Years Deliveries: 27																																
	2	2015	NAVY		4	4	0																								0	
	2	2017	NAVY		1	1	0																								0	
	2	2018	NAVY	11 ⁽⁵⁾	4	7	-	1	-	1																					5	
	2	2019	NAVY		6	0	6	1	-	1	-	1	-	1	-	1															0	
3.1.2) MACHINE GUN SYSTEM EQUIPMENT OPC																																
	3	2017	NAVY		1	1	0																								0	
	3	2018	NAVY		1	1	0																								0	
								OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	

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Exhibit P-21, Production Schedule: PB 2019 Navy								Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 04 / 2					P-1 Line Item Number / Title: 4206 / Coast Guard Weapons				Item Number / Title [DODIC]: 1 / Coast Guard Weapons		

MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Year)			Procurement Leadtime (Months)							
		MSR For 2019	1-8-5 For 2019	MAX For 2019	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	BAE SYSTEMS - MINNEAPOLIS, MN	1	2	4	9	3	30	33	3	3	24	27
2	BAE SYSTEMS - MINNEAPOLIS, MN	10	24	60	6	3	18	21	3	3	12	15
3	BAE SYSTEMS - MINNEAPOLIS, MN	10	24	60	6	3	18	21	3	3	12	15

"A" in the Delivery Schedule indicates the Contract Award Date.

Note: Due to space limitations, quantities in the Exhibit P-21 delivery calendar are truncated and rounded based on the maximum quantity in the calendar as follows. If the maximum quantity is less than or equal to than 9,999, all quantities are shown as each. If the maximum quantity is between 10,000 and 999,999 all quantities are shown in thousands. If the maximum quantity is between 1,000,000 and 999,999,999 all quantities are shown in millions (rounded to the nearest thousand). If the maximum quantity is equal or greater than 1,000,000,000 all quantities are shown in billions (rounded to the nearest million).

Footnotes:

⁽⁵⁾ Remaining 5 deliveries: 2020-03, 2020-05, 2020-07, 2020-09, 2020-11

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy								Date: February 2018				
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 04: Other Weapons / BSA 2: Modification of Guns And Gun Mounts						P-1 Line Item Number / Title: 4217 / Gun Mount Mods						
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A					Other Related Program Elements: N/A				
Line Item MDAP/MAIS Code: N/A												
Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	637.735	77.003	76.025	74.618	3.000	77.618	73.893	74.482	75.118	76.630	6.572	1,175.076
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	637.735	77.003	76.025	74.618	3.000	77.618	73.893	74.482	75.118	76.630	6.572	1,175.076
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	637.735	77.003	76.025	74.618	3.000	77.618	73.893	74.482	75.118	76.630	6.572	1,175.076
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)												
Initial Spares (\$ in Millions)	-	1.795	3.320	1.013	-	1.013	1.102	3.437	3.777	3.852	Continuing	Continuing
Flyaway Unit Cost (\$ in Dollars)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Dollars)	-	-	-	-	-	-	-	-	-	-	-	-
Description: Gun Mount Mods supports various types of Gun Weapon Systems, sub-system modifications and upgrade requirements. [P5 / E5001 MK45 MODS 1&2]: Funding was realigned to E5011. [P5 / E5002 MEDIUM CALIBER GUN MODS]: Medium Caliber Gun Mounts (MK110 57mm or MK75 76mm) are installed on LCS, USCG WMSL, and USCG WMEC cutters and land based training/test units. The gun mounts provide an anti-surface warfare and anti-air warfare capability for outfitted ships. Funds procure Ordnance Alterations (ORDALT kits), and provide Integrated Logistics Support (ILS) and production engineering for system improvements that affect safety, reliability and maintainability. [P5 / E5004 MK45 MOD 4]: Funding was realigned to E5011. [P5 / E5006 MINOR CALIBER GUN MODS]: Minor Caliber Gun Mounts (MK38 MOD or MK46 MOD) are installed on AS, CVN, CG, DDG, LCS, LSD, LPD, LHA, LHD, FFG, PC, USCG FRC, USCG OPC, LCC, MK VI Patrol Boats and land based training/test units. The gun mounts provide an anti-surface warfare and anti-air warfare capability for outfitted ships. Funds procure ORDALTs kits, and provide ILS support and production engineering for system improvements that affect safety, reliability and maintainability. [P5 / E5011 MAJOR CALIBER GUN MODS]: The 5-Inch MK45 MOD Gun Mounts are automated, lightweight, single-barrel gun mounts that provide an anti-surface warfare, anti-air warfare, and naval surface fire support capability for outfitted ships. The MK45 is installed on CG47 and DDG51 Class surface ships and land based training/test units. Funds procure ORDALTs kits, and provide ILS support and production engineering for system improvements that affect safety, reliability and maintainability.												

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy							Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 04: Other Weapons / BSA 2: Modification of Guns And Gun Mounts					P-1 Line Item Number / Title: 4217 / Gun Mount Mods					
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A				Other Related Program Elements: N/A			
Line Item MDAP/MAIS Code: N/A										
Exhibits Schedule					Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	1 / Gun Mount Mods				- / 260.710	- / 23.727	- / 30.873	- / 47.714	- / 3.000	- / 50.714
P-3a	1 / E5006 MINOR CALIBER GUN MODS MK38 GUN KITS (TBD)				- / 377.025	- / 53.276	- / 45.152	- / 26.904	- / 0.000	- / 26.904
P-40	Total Gross/Weapon System Cost				- / 637.735	- / 77.003	- / 76.025	- / 74.618	- / 3.000	- / 77.618
Exhibits Schedule					FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	1 / Gun Mount Mods				- / -	- / -	- / -	- / -	- / -	- / -
P-3a	1 / E5006 MINOR CALIBER GUN MODS MK38 GUN KITS (TBD)				- / 18.121	- / 18.483	- / 13.740	- / 14.304	- / 6.572	- / 573.577
P-40	Total Gross/Weapon System Cost				- / 73.893	- / 74.482	- / 75.118	- / 76.630	- / 6.572	- / 1,175.076
*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.										
Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.										
Justification: FY 2019 E5002 MEDIUM CALIBER GUN MODS 2.1.2- \$9.1M increase is required to procure a MK 110 57mm Gun Mount as land-based test asset for In-Service Engineer Agent (ISEA) at Naval Surface Warfare Center, Indian Head, Picatinny Detachment. The ISEA needs to have a land-based gun asset to effectively address Fleet issues, combat system integration, parts obsolescence, technical manual, logistic document and training course updates. As a result, the MK 110 Gun Mount Operational Availability (Ao) and Mean Time to Repair (MTTR) will be significantly improved to support the threshold requirements. MK38 Machine Gun System kits in FY 2019 will continue procurement of MK38 MOD 3 configuration with multiple capability upgrades: 7.62mm coaxially mounted machine gun, improved Electro-Optical Infrared Sensor (EOIR) for target identification, and improved main computer unit. These capabilities will improve ship-based solutions for close range Fast Attack Craft/Fast In-shore Attack Craft (FAC/FIAC) Counter-Swarm. Installations for large deck include CVN installations. CVN installation costs are much higher than the amphibious ships previously executed (longer cable runs, larger sponsons, and floating crane requirements). FY 2019 E5006 MINOR CALIBER GUN MODS 4.1.3 increase in Gun Kits ILS/Test/Production increase due to concurrent installations on CVN and AS class ships, which increased production, installation and test support costs. FY 2019 E5006 MINOR CALIBER GUN MODS 4.1.7 (BASE) increase in MK38 Upgrade Kits due to increased number of MK38 Coaxial Upgrade Kits being procured in FY 2019. FY 2019 E5006 MINOR CALIBER GUN MODS 4.1.8 increase in MK38 Upgrade Kit Install due to increased number of MK38 Coaxial Upgrade Kits being installed in FY 2019. FY 2019 E5006 MINOR CALIBER GUN MODS 4.1.10 increase in MK38 backfit kit due to establishment for MK 38 Mod 3 ORDALT to upgrade deployed systems. The FY 2019 funding request was reduced by \$0.809 million to reflect the Department of Navy's effort to support the Office of Management and Budget directed reforms for Efficiency and Effectiveness that include a lean, accountable, more efficient government.										

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy		Date: February 2018
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 04: Other Weapons / BSA 2: Modification of Guns And Gun Mounts		P-1 Line Item Number / Title: 4217 / Gun Mount Mods
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: N/A		
<p>OCO: Line Item 4.1.7 - FY 2019 OCO funding procures the Ordnance Alteration Kits to provide a capability improvement to MK38 Machine Gun System to support the continued Navy response to Joint Urgent Operational Need CC-0558 for Counter Unmanned Aerial Systems (C-UAS). More information available at a higher classification.</p>		

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Exhibit P-5, Cost Analysis: PB 2019 Navy													Date: February 2018								
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 04 / 2							P-1 Line Item Number / Title: 4217 / Gun Mount Mods						Item Number / Title [DODIC]: 1 / Gun Mount Mods								
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:											
Resource Summary				Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
Procurement Quantity <i>(Units in Each)</i>				-			-			-			-			-			-		
Gross/Weapon System Cost <i>(\$ in Millions)</i>				260.710			23.727			30.873			47.714			3.000			50.714		
Less PY Advance Procurement <i>(\$ in Millions)</i>				-			-			-			-			-			-		
Net Procurement (P-1) <i>(\$ in Millions)</i>				260.710			23.727			30.873			47.714			3.000			50.714		
Plus CY Advance Procurement <i>(\$ in Millions)</i>				-			-			-			-			-			-		
Total Obligation Authority <i>(\$ in Millions)</i>				260.710			23.727			30.873			47.714			3.000			50.714		
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)																					
Initial Spares <i>(\$ in Millions)</i>				-			-			-			-			-			-		
Gross/Weapon System Unit Cost <i>(\$ in Dollars)</i>				-			-			-			-			-			-		
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																					
Cost Elements		Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total				
		Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)		
Hardware - E5001 MK45 MODS 1&2 Cost																					
Non Recurring Cost																					
1.1.1) MK45 MODS 1&2 KITS		-	-	16.708	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000		
Subtotal: Non Recurring Cost		-	-	16.708	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000		
Subtotal: Hardware - E5001 MK45 MODS 1&2 Cost		-	-	16.708	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000		
Hardware - E5002 MEDIUM CALIBER GUN MODS Cost																					
Recurring Cost																					
2.1.1) MEDIUM CALIBER KITS ⁽¹⁾		-	-	10.424	-	-	1.563	-	-	1.745	-	-	2.210	-	-	0.000	-	-	2.210		
2.1.2) MEDIUM CALIBER GUN ⁽²⁾		-	-	12.875	-	-	0.000	-	-	0.000	-	-	9.146	-	-	0.000	-	-	9.146		
Subtotal: Recurring Cost		-	-	23.299	-	-	1.563	-	-	1.745	-	-	11.356	-	-	0.000	-	-	11.356		
Subtotal: Hardware - E5002 MEDIUM CALIBER GUN MODS Cost		-	-	23.299	-	-	1.563	-	-	1.745	-	-	11.356	-	-	0.000	-	-	11.356		
Hardware - E5004 MK45 MOD 4 Cost																					
Non Recurring Cost																					
3.1.1) DDG MODERNIZATION WEAPONS		-	-	8.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000		
3.1.2) MK45 MOD 4 KITS		-	-	55.912	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000		

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Exhibit P-5, Cost Analysis: PB 2019 Navy													Date: February 2018					
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 04 / 2							P-1 Line Item Number / Title: 4217 / Gun Mount Mods						Item Number / Title [DODIC]: 1 / Gun Mount Mods					
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:								
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
3.1.3) MK45 MOD 4 KITS-INSTALL / ILS / PRODUCTION	-	-	4.203	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
Subtotal: Non Recurring Cost	-	-	68.115	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
Subtotal: Hardware - E5004 MK45 MOD 4 Cost	-	-	68.115	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
Hardware - E5006 MINOR CALIBER GUN MODS Cost																		
Recurring Cost																		
4.1.1) MK38 GUN ENGINEERING CHANGE ORDERS	-	-	11.928	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
4.1.2) SPS DE-INSTALLATION	-	-	1.416	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
4.1.3) MK38 GUN KITS ILS / TEST / PRODUCTION SUPT (Surface Warfare) ⁽³⁾	-	-	27.546	-	-	1.520	-	-	1.784	-	-	2.003	-	-	0.000	-	-	2.003
4.1.4) MK38 GUN KITS ILS / TEST / PRODUCTION SUPT (Expeditionary Warfare)	-	-	1.438	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
4.1.6) MK38 COAXIAL GUN UPGRADE	-	-	5.034	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
4.1.7) MK38 UPGRADE KITS ⁽⁴⁾	-	-	9.212	-	-	5.722	-	-	10.798	-	-	11.907	-	-	3.000	-	-	14.907
4.1.8) MK38 UPGRADE KIT INSTALL ⁽⁵⁾	-	-	0.900	-	-	1.600	-	-	2.000	-	-	3.700	-	-	0.000	-	-	3.700
4.1.9) MK38 UPGRADE LOGISTICS SUPT	-	-	7.421	-	-	1.380	-	-	1.539	-	-	1.473	-	-	0.000	-	-	1.473
4.1.10) MK38 BACKFIT KIT ⁽⁶⁾	-	-	0.000	-	-	0.000	-	-	0.000	-	-	5.838	-	-	0.000	-	-	5.838
4.1.12) MK46 GWS KITS	-	-	6.395	-	-	3.419	-	-	3.744	-	-	3.500	-	-	0.000	-	-	3.500
4.1.13) MK46 GWS KIT INSTALL	-	-	0.920	-	-	0.424	-	-	0.486	-	-	0.550	-	-	0.000	-	-	0.550
4.1.14) MK46 GUN SCHOOL HOUSE	-	-	8.893	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
Subtotal: Recurring Cost	-	-	81.103	-	-	14.065	-	-	20.351	-	-	28.971	-	-	3.000	-	-	31.971

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Exhibit P-5, Cost Analysis: PB 2019 Navy													Date: February 2018					
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 04 / 2							P-1 Line Item Number / Title: 4217 / Gun Mount Mods						Item Number / Title [DODIC]: 1 / Gun Mount Mods					
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:								
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
Subtotal: Hardware - E5006 MINOR CALIBER GUN MODS Cost	-	-	81.103	-	-	14.065	-	-	20.351	-	-	28.971	-	-	3.000	-	-	31.971
Hardware - E5007 FORCE PROTECTION WEAPONS (ATFP) Cost																		
Non Recurring Cost																		
5.1.1) FORCE PROTECTION WEAPONS (ATFP)	-	-	5.308	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
Subtotal: Non Recurring Cost	-	-	5.308	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
Subtotal: Hardware - E5007 FORCE PROTECTION WEAPONS (ATFP) Cost	-	-	5.308	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
Hardware - E5008 STABILIZED MK38 MOD 2 GUNS - ESVS Cost																		
Non Recurring Cost																		
6.1.1) STABILIZED MK38 MOD 2 GUNS - ESVS	-	-	10.438	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
Subtotal: Non Recurring Cost	-	-	10.438	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
Subtotal: Hardware - E5008 STABILIZED MK38 MOD 2 GUNS - ESVS Cost	-	-	10.438	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
Hardware - E5009 TRANSIT PROTECTION SYSTEMS Cost																		
Non Recurring Cost																		
7.1.1) PALLETIZED PROTECTION SYSTEMS	-	-	1.100	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
7.1.2) PRE- PRODUCTION COSTS	-	-	1.691	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
Subtotal: Non Recurring Cost	-	-	2.791	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
Subtotal: Hardware - E5009 TRANSIT PROTECTION SYSTEMS Cost	-	-	2.791	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
Hardware - MK110 (57MM) NAVAL GUN Cost																		
Non Recurring Cost																		
8.1.1) LAND BASED ENGINEERING SITE	-	-	7.800	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000

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Exhibit P-5, Cost Analysis: PB 2019 Navy												Date: February 2018						
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 04 / 2						P-1 Line Item Number / Title: 4217 / Gun Mount Mods						Item Number / Title [DODIC]: 1 / Gun Mount Mods						
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:								
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
Subtotal: Non Recurring Cost	-	-	7.800	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
Subtotal: Hardware - MK110 (57MM) NAVAL GUN Cost	-	-	7.800	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
Hardware - E5011 MAJOR CALIBER GUN MODS Cost																		
Recurring Cost																		
9.1.1) MK45 MOD 1, 2 & 4 KITS	-	-	28.975	-	-	5.407	-	-	5.853	-	-	4.396	-	-	0.000	-	-	4.396
9.1.2) MK45 MOD 1, 2 & 4 INSTALL / ILS / PROD SUPT	-	-	16.173	-	-	2.692	-	-	2.924	-	-	2.991	-	-	0.000	-	-	2.991
Subtotal: Recurring Cost	-	-	45.148	-	-	8.099	-	-	8.777	-	-	7.387	-	-	0.000	-	-	7.387
Subtotal: Hardware - E5011 MAJOR CALIBER GUN MODS Cost	-	-	45.148	-	-	8.099	-	-	8.777	-	-	7.387	-	-	0.000	-	-	7.387
Gross/Weapon System Cost	-	-	260.710	-	-	23.727	-	-	30.873	-	-	47.714	-	-	3.000	-	-	50.714
Footnotes: (1) FY 2019 E5002 MEDIUM CALIBER GUN MODS 2.1.1 increase provides additional engineering services for increased number of in-service guns. (2) FY 2019 E5002 MEDIUM CALIBER GUN MODS 2.1.2 increase is required to procure a MK 110 57mm Gun Mount as land-based test asset for In-Service Engineer Agent (ISEA) at Naval Surface Warfare Center, Indian Head, Picatinny Detachment. The ISEA needs to have a land-based gun asset to effectively address Fleet issues, combat system integration, parts obsolescence, technical manual, logistic document and training course updates. As a result, the MK 110 Gun Mount Operational Availability (Ao) and Mean Time to Repair (MTTR) will be significantly improved to support the threshold requirements. (3) FY 2019 E5006 MINOR CALIBER GUN MODS 4.1.3 increase in Gun Kits ILS/Test/Production increase due to concurrent installations on CVN and AS class ships, which increased production, installation and test support costs. (4) FY 2019 E5006 MINOR CALIBER GUN MODS 4.1.7 (BASE)increase in MK38 Upgrade Kits due to increased number of MK38 Coaxial Upgrade Kits being procured in FY 2019. FY 2019 E5006 MINOR CALIBER GUN MODS 4.1.7 (OCO) - Funding procures the Ordnance Alteration Kits to Provide a capability improvement to MK38 Machine Gun System to Counter-Unmanned Arial System (UAS), in support of Urgent Operational Need. (5) FY 2019 E5006 MINOR CALIBER GUN MODS 4.1.8 increase in MK38 Upgrade Kit Install due to increased number of MK38 Coaxial Upgrade Kits being installed in FY 2019. (6) E5006 MINOR CALIBER GUN MODS 4.1.10 was established in FY 2019 for MK 38 Mod 3 ORDALT to upgrade deployed systems.																		

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Exhibit P-3a, Individual Modification: PB 2019 Navy						Date: February 2018					
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 04 / 2				P-1 Line Item Number / Title: 4217 / Gun Mount Mods				Modification Number / Title: 1 / E5006 MINOR CALIBER GUN MODS MK38 GUN KITS			

ID Code (A=Service Ready, B=Not Service Ready) :						MDAP/MAIS Code:						
Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	377.025	53.276	45.152	26.904	0.000	26.904	18.121	18.483	13.740	14.304	6.572	573.577
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	377.025	53.276	45.152	26.904	0.000	26.904	18.121	18.483	13.740	14.304	6.572	573.577
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	377.025	53.276	45.152	26.904	0.000	26.904	18.121	18.483	13.740	14.304	6.572	573.577
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)												
Initial Spares (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Dollars)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

Minor Caliber Gun Mounts (MK38 MOD or MK46 MOD) are installed on AS, CVN, CG, DDG, LCS, LSD, LPD, LHA, LHD, FFG, PC, USCG FRC, USCG OPC, LCC, MK VI Patrol Boats and land based training/ test units. The gun mounts provide an anti-surface warfare and anti-air warfare capability for outfitted ships. Funds procure ORDALTs kits, and provide ILS support and production engineering for system improvements that affect safety, reliability and maintainability.

[MINOR CAL. GUN MK38 GUN KITS (Surface Warfare) Standard]

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Exhibit P-3a, Individual Modification: PB 2019 Navy									Date: February 2018				
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 04 / 2				P-1 Line Item Number / Title: 4217 / Gun Mount Mods					Modification Number / Title: 1 / E5006 MINOR CALIBER GUN MODS MK38 GUN KITS				
ID Code (A=Service Ready, B=Not Service Ready) :								MDAP/MAIS Code:					
Models of Systems Affected: [No Model Specified]				Modification Type: TBD					Related RDT&E PEs:				
Financial Plan	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total	
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	
Procurement													
<i>Modification Item 1 of 1:</i> E5006 MINOR CALIBER GUN MODS MK38 GUN KITS													
B Kits													
Recurring													
1.1.1) MINOR CAL. GUN MK38 GUN KITS (Surface Warfare) Standard - NonOrganic	241 / 189.952	22 / 31.130	9 / 12.987	- / -	- / -	- / -	- / -	6 / 9.192	2 / 3.126	- / -	- / -	280 / 246.387	
1.1.2) MINOR CAL. GUN MK38 GUN KITS (Surface Warfare) Large Deck - NonOrganic ⁽⁷⁾	32 / 39.673	4 / 5.660	8 / 11.544	6 / 8.832	- / -	6 / 8.832	6 / 9.012	- / -	4 / 6.252	4 / 6.376	- / -	64 / 87.349	
1.1.3) MINOR CAL. GUN MODS MK38 GUN KITS (Expeditionary Warfare) - NonOrganic	10 / 11.966	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	10 / 11.966	
<i>Subtotal: Recurring</i>	- / 241.591	- / 36.790	- / 24.531	- / 8.832	- / -	- / 8.832	- / 9.012	- / 9.192	- / 9.378	- / 6.376	- / 0.000	- / 345.702	
<i>Subtotal: E5006 MINOR CALIBER GUN MODS MK38 GUN KITS</i>	283 / 241.591	26 / 36.790	17 / 24.531	6 / 8.832	- / -	6 / 8.832	6 / 9.012	6 / 9.192	6 / 9.378	4 / 6.376	- / -	354 / 345.702	
<i>Subtotal: Procurement, All Modification Items</i>	- / 241.591	- / 36.790	- / 24.531	- / 8.832	- / -	- / 8.832	- / 9.012	- / 9.192	- / 9.378	- / 6.376	- / 0.000	- / 345.702	
Installation													
<i>Modification Item 1 of 1:</i> E5006 MINOR CALIBER GUN MODS MK38 GUN KITS	- / 135.434	- / 16.486	- / 20.621	- / 18.072	- / 0.000	- / 18.072	- / 9.109	- / 9.291	- / 4.362	- / 7.928	- / 6.572	- / 227.875	
<i>Subtotal: Installation</i>	- / 135.434	- / 16.486	- / 20.621	- / 18.072	- / -	- / 18.072	- / 9.109	- / 9.291	- / 4.362	- / 7.928	- / 6.572	- / 227.875	
Total													
Total Cost (Procurement + Support + Installation)	377.025	53.276	45.152	26.904	0.000	26.904	18.121	18.483	13.740	14.304	6.572	573.577	

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Exhibit P-3a, Individual Modification: PB 2019 Navy												Date: February 2018																			
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 04 / 2								P-1 Line Item Number / Title: 4217 / Gun Mount Mods								Modification Number / Title: 1 / E5006 MINOR CALIBER GUN MODS MK38 GUN KITS															
ID Code (A=Service Ready, B=Not Service Ready) :												MDAP/MAIS Code:																			
Modification Item 1 of 1: E5006 MINOR CALIBER GUN MODS MK38 GUN KITS																															
Manufacturer Information																															
Manufacturer Name: BAE SYSTEMS												Manufacturer Location: Minneapolis, MN																			
Administrative Leadtime (in Months): 6												Production Leadtime (in Months): 12																			
Dates		FY 2017		FY 2018		FY 2019		FY 2020		FY 2021		FY 2022		FY 2023																	
Contract Dates		Sep 2017		Mar 2018		Mar 2019		Mar 2020		May 2021		Mar 2022		Mar 2023																	
Delivery Dates		Sep 2018		Mar 2019		Mar 2020		Mar 2021		May 2022		Mar 2023		Mar 2024																	
Installation Information																															
Method of Implementation: [none specified]:: Installation Name: MINOR CAL. GUN MK38 GUN KITS (Surface Warfare) Standard																															
Installation Cost		Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total																		
		Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)																		
Prior Years		232 / 106.643	16 / 10.528	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000	248 / 117.171																		
FY 2017		- / -	- / -	22 / 14.784	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000	22 / 14.784																		
FY 2018		- / -	- / -	- / -	9 / 6.165	0 / 0.000	9 / 6.165	- / -	- / -	- / -	- / -	0 / 0.000	9 / 6.165																		
FY 2019		- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -																		
FY 2020		- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -																		
FY 2021		- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	6 / 4.362	- / -	0 / 0.000	6 / 4.362																		
FY 2022		- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	2 / 1.484	0 / 0.000	2 / 1.484																		
FY 2023		- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -																		
To Complete		- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -																		
Total		232 / 106.643	16 / 10.528	22 / 14.784	9 / 6.165	0 / 0.000	9 / 6.165	- / -	- / -	6 / 4.362	2 / 1.484	0 / 0.000	287 / 143.966																		
Installation Schedule																															
	PYS	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				TC	Tot
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
In	232	-	-	8	8	-	5	8	9	-	3	3	3	-	-	-	-	-	-	-	-	-	2	3	1	-	2	-	-	-	287
Out	227	5	-	5	5	6	-	8	5	9	-	3	3	3	-	-	-	-	-	-	-	-	-	2	3	1	-	-	2	-	287

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Exhibit P-3a, Individual Modification: PB 2019 Navy		Date: February 2018
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 04 / 2	P-1 Line Item Number / Title: 4217 / Gun Mount Mods	Modification Number / Title: 1 / E5006 MINOR CALIBER GUN MODS MK38 GUN KITS
ID Code (A=Service Ready, B=Not Service Ready) :		MDAP/MAIS Code:

Modification Item 1 of 1: E5006 MINOR CALIBER GUN MODS MK38 GUN KITS

Installation Information

Method of Implementation: [none specified]:: Installation Name: MINOR CAL. GUN MK38 GUN KITS (Surface Warfare) Large Deck

Installation Cost	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	21 / 24.245	4 / 5.722	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000	25 / 29.967
FY 2017	- / -	- / -	4 / 5.837	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000	4 / 5.837
FY 2018	- / -	- / -	- / -	6 / 11.907	0 / 0.000	6 / 11.907	2 / 0.000	- / -	- / -	- / -	0 / 0.000	8 / 11.907
FY 2019	- / -	- / -	- / -	- / -	- / -	- / -	6 / 9.109	- / -	- / -	- / -	0 / 0.000	6 / 9.109
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	6 / 9.291	- / -	- / -	0 / 0.000	6 / 9.291
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	4 / 6.444	0 / 0.000	4 / 6.444
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	4 / 6.572	4 / 6.572
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	21 / 24.245	4 / 5.722	4 / 5.837	6 / 11.907	0 / 0.000	6 / 11.907	8 / 9.109	6 / 9.291	- / -	4 / 6.444	4 / 6.572	57 / 79.127

Installation Schedule

	PYS	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				TC	Tot
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
In	21	-	-	2	2	-	2	2	-	-	-	3	3	2	-	2	4	-	-	4	2	-	-	-	-	-	-	4	-	4	57
Out	18	3	-	-	2	2	-	2	2	-	-	-	3	3	2	-	2	4	-	-	4	2	-	-	-	-	-	-	4	4	57

Method of Implementation: [none specified]:: Installation Name: MINOR CAL. GUN MODS MK38 GUN KITS (Expeditionary Warfare)

Installation Cost	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	8 / 4.546	2 / 0.236	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000	10 / 4.782
FY 2017	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2018	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -

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Exhibit P-3a, Individual Modification: PB 2019 Navy		Date: February 2018
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 04 / 2	P-1 Line Item Number / Title: 4217 / Gun Mount Mods	Modification Number / Title: 1 / E5006 MINOR CALIBER GUN MODS MK38 GUN KITS

ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Modification Item 1 of 1: E5006 MINOR CALIBER GUN MODS MK38 GUN KITS

Installation Information

Method of Implementation: [none specified]:: Installation Name: MINOR CAL. GUN MODS MK38 GUN KITS (Expeditionary Warfare)

Installation Cost	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	8 / 4.546	2 / 0.236	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000	10 / 4.782

Installation Schedule

	PYS	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				TC	Tot
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
In	8	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10
Out	8	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10

Footnotes:

⁽⁷⁾ MK38 Machine Gun System kits in FY 2019 will continue procurement of MK38 MOD 3 configuration with multiple capability upgrades: 7.62mm coaxially mounted machine gun, improved Electro-Optical Infrared Sensor (EOIR) for target identification, and improved main computer unit. These capabilities will improve ship-based solutions for close range Fast Attack Craft/Fast In-shore Attack Craft (FAC/FIAC) Counter-Swarm. FY 2019 increase for 6 Surface Warfare Large Deck installations. Installations for large deck include CVN installations. CVN installation costs are much higher than the amphibious ships previously executed (longer cable runs, larger sponsons, and floating crane requirements).

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy								Date: February 2018				
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 04: Other Weapons / BSA 2: Modification of Guns And Gun Mounts						P-1 Line Item Number / Title: 4221 / LCS Module Weapons						
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A					Other Related Program Elements: N/A				
Line Item MDAP/MAIS Code: N/A												
Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity (Units in Each)	-	24	110	90	-	90	120	115	109	109	-	677
Gross/Weapon System Cost (\$ in Millions)	0.000	2.776	13.110	11.350	0.000	11.350	14.585	14.417	13.825	14.103	37.555	121.721
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	0.000	2.776	13.110	11.350	0.000	11.350	14.585	14.417	13.825	14.103	37.555	121.721
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	0.000	2.776	13.110	11.350	0.000	11.350	14.585	14.417	13.825	14.103	37.555	121.721
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)												
Initial Spares (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (\$ in Dollars)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Dollars)	-	115,666.67	119,181.82	126,111.11	-	126,111.11	121,541.67	125,365.22	126,834.86	129,385.32	-	179,794.68
Description:												
The FY 2019 funding request was reduced by \$2.155 million to account for the availability of prior year execution balances.												
The Surface Warfare (SUW) Mission Package (MP) increases firepower and offensive/defensive capabilities against large numbers of highly maneuverable, fast, small craft threats, giving LCS the ability to protect the sea lanes and move a force quickly through a choke point or other strategic waterway. With the SUW MP embarked, LCS has enhanced detection and engagement capability against enemy small craft and similar littoral surface threats.												
The SUW MP is composed of the Gun Mission Module (GMM), Maritime Security Module (MSM), and the Surface-to-Surface Missile Module (SSMM) with Longbow Hellfire Missiles. This BLI funds procurement of full up Longbow Hellfire Missiles for the SSMM. These Longbow Hellfire missiles are procured from Army inventory and modified (modified missile software for maritime missions and add fragmentation sleeves) and certified for Navy use.												
Other Related Budgets: BLIs: OPN 1603 LCS SUW Mission Modules, RDT&E 0603596N LCS Mission Modules												
[P5 / Longbow Hellfire Missile]: The Hellfire Longbow missile is a fire and forget, millimeter-wave seeker missile for autonomous engagement. It has a 12.39 lb warhead, a single stage motor and a 6-8 km range when vertically launched.												
[P5 / Consulting Services]: Provides program management support, engineering and technical support, studies, analysis and evaluation on mission module systems.												

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy								Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 04: Other Weapons / BSA 2: Modification of Guns And Gun Mounts						P-1 Line Item Number / Title: 4221 / LCS Module Weapons				
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A			Other Related Program Elements: N/A				
Line Item MDAP/MAIS Code: N/A										
Exhibits Schedule					Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	1 / LCS Module Weapons	P-5a, P-21			- / 0.000	24 / 2.776	110 / 13.110	90 / 11.350	- / 0.000	90 / 11.350
P-40	Total Gross/Weapon System Cost				- / 0.000	24 / 2.776	110 / 13.110	90 / 11.350	- / 0.000	90 / 11.350
*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.										
Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.										

Justification:

FY 2019 procurement of Longbow Hellfire Missiles will support LCS SUW Division Deployments and build Navy inventory objective of 684 missiles.

The FY 2019 funding request was reduced by \$2.155 million to account for the availability of prior year balances.

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Exhibit P-5, Cost Analysis: PB 2019 Navy												Date: February 2018						
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 04 / 2						P-1 Line Item Number / Title: 4221 / LCS Module Weapons						Item Number / Title [DODIC]: 1 / LCS Module Weapons						
ID Code (A=Service Ready, B=Not Service Ready) :									MDAP/MAIS Code:									
Resource Summary				Prior Years		FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total				
Procurement Quantity <i>(Units in Each)</i>				-		24		110		90		-		90				
Gross/Weapon System Cost <i>(\$ in Millions)</i>				0.000		2.776		13.110		11.350		0.000		11.350				
Less PY Advance Procurement <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Net Procurement (P-1) <i>(\$ in Millions)</i>				0.000		2.776		13.110		11.350		0.000		11.350				
Plus CY Advance Procurement <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Total Obligation Authority <i>(\$ in Millions)</i>				0.000		2.776		13.110		11.350		0.000		11.350				
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)																		
Initial Spares <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Gross/Weapon System Unit Cost <i>(\$ in Dollars)</i>				-		115,666.67		119,181.82		126,111.11		-		126,111.11				
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
Hardware Cost																		
Recurring Cost																		
1.1.1) Longbow Hellfire Missile ^(†)	-	-	-	112,625.00	24	2.703	115,472.73	110	12.702	117,490.91	90	10.574	-	-	-	117,490.91	90	10.574
Subtotal: Recurring Cost	-	-	-	-	-	2.703	-	-	12.702	-	-	10.574	-	-	-	-	-	10.574
Subtotal: Hardware Cost	-	-	-	-	-	2.703	-	-	12.702	-	-	10.574	-	-	-	-	-	10.574
Support Cost																		
2.1) Consulting Services	-	-	-	-	-	0.073	-	-	0.408	-	-	0.776	-	-	-	-	-	0.776
Subtotal: Support Cost	-	-	-	-	-	0.073	-	-	0.408	-	-	0.776	-	-	-	-	-	0.776
Gross/Weapon System Cost	-	-	0.000	115,666.67	24	2.776	119,181.82	110	13.110	126,111.11	90	11.350	-	-	0.000	126,111.11	90	11.350
†) indicates the presence of a P-5a																		

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Exhibit P-5a, Procurement History and Planning: PB 2019 Navy								Date: February 2018				
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 04 / 2				P-1 Line Item Number / Title: 4221 / LCS Module Weapons				Item Number / Title [DODIC]: 1 / LCS Module Weapons				

Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$)	Specs Avail Now?	Date Revision Available	RFP Issue Date
1.1.1) Longbow Hellfire Missile ^(†)		2017 ⁽¹⁾	US Army / Huntsville, AL	MIPR	JAMS PO Huntsville	Sep 2017	Jul 2018	24	112,625.00	Y		
1.1.1) Longbow Hellfire Missile ^(†)		2018	US Army / Huntsville, AL	MIPR	JAMS PO Huntsville	Dec 2017	Oct 2018	110	115,472.73	Y		
1.1.1) Longbow Hellfire Missile ^(†)		2019	US Army / Huntsville, AL	MIPR	JAMS PO Huntsville	Dec 2018	Oct 2019	90	117,490.91	Y		

^(†) indicates the presence of a P-21

Footnotes:

⁽¹⁾ Missiles to be procured from US Army stockpile. FY 2017 procurement will be for early deployment of the SSMM capability. Once the Navy takes possession of the missiles, there are shipboard modifications and certifications that need to be completed before they are delivered and become a fleet asset. This process takes 11 months.

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Exhibit P-21, Production Schedule: PB 2019 Navy																				Date: February 2018																						
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 04 / 2										P-1 Line Item Number / Title: 4221 / LCS Module Weapons										Item Number / Title [DODIC]: 1 / LCS Module Weapons																						
Cost Elements <i>(Units in Each)</i>							Fiscal Year 2017										Fiscal Year 2018														BALANCE											
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2016	BAL DUE AS OF 1 OCT	Calendar Year 2017										Calendar Year 2018																									
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP												
1.1.1) Longbow Hellfire Missile																																										
	1	2017	NAVY	24	0	24											A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	8		0							
	1	2018	NAVY	110	0	110											A										-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	110
	1	2019	NAVY	90	0	90																															90					
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP												

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Exhibit P-21, Production Schedule: PB 2019 Navy																				Date: February 2018												
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 04 / 2										P-1 Line Item Number / Title: 4221 / LCS Module Weapons										Item Number / Title [DODIC]: 1 / LCS Module Weapons												
Cost Elements (Units in Each)							Fiscal Year 2019										Fiscal Year 2020													BALANCE		
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2018	BAL DUE AS OF 1 OCT	Calendar Year 2019										Calendar Year 2020															
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG		SEP	
1.1.1) Longbow Hellfire Missile																																
	1	2017	NAVY		24	24	0																									0
	1	2018	NAVY		110	0	110	16	16	16	16	16	16	14																		0
	1	2019	NAVY		90	0	90			A	-	-	-	-	-	-	16	16	16	12	10	10	10						0			
								OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	

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Exhibit P-21, Production Schedule: PB 2019 Navy									Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 04 / 2					P-1 Line Item Number / Title: 4221 / LCS Module Weapons				Item Number / Title [DODIC]: 1 / LCS Module Weapons			
MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Year)			Procurement Leadtime (Months)							
		MSR For 2019	1-8-5 For 2019	MAX For 2019	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	US Army - Huntsville, AL	110	139	168	0	0	10	10	0	0	10	10

"A" in the Delivery Schedule indicates the Contract Award Date.

Note: Due to space limitations, quantities in the Exhibit P-21 delivery calendar are truncated and rounded based on the maximum quantity in the calendar as follows. If the maximum quantity is less than or equal to than 9,999, all quantities are shown as each. If the maximum quantity is between 10,000 and 999,999 all quantities are shown in thousands. If the maximum quantity is between 1,000,000 and 999,999,999 all quantities are shown in millions (rounded to the nearest thousand).If the maximum quantity is equal or greater than 1,000,000,000 all quantities are shown in billions (rounded to the nearest million).

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy	Date: February 2018
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Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 04: Other Weapons / BSA 2: Modification of Guns And Gun Mounts	P-1 Line Item Number / Title: 4223 / Cruiser Modernization Weapons
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ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity <i>(Units in Each)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost <i>(\$ in Millions)</i>	296.660	71.200	34.825	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-	402.685
Less PY Advance Procurement <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) <i>(\$ in Millions)</i>	296.660	71.200	34.825	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-	402.685
Plus CY Advance Procurement <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority <i>(\$ in Millions)</i>	296.660	71.200	34.825	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-	402.685
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost <i>(\$ in Dollars)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost <i>(\$ in Dollars)</i>	-	-	-	-	-	-	-	-	-	-	-	-

Description:

Modernized CG47 Class Ships operate independently, or as units of Carrier Strike Groups, and Surface Action Groups, in support of underway replenishment groups and Marine Amphibious Task Forces in multitreat environments that include air, surface, and subsurface threats. These ships respond to low intensity conflict/Coastal and Littoral Offshore Warfare scenarios, joint missions, as well as open ocean conflicts, providing and augmenting power projection and forward presence. In addition, these ships conduct air dominance, land attack, and force protection missions. The Cruiser Modernization warfighting improvements extend the CG47 Class Ships capabilities against projected threats well into the 21st century.

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy								Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 04: Other Weapons / BSA 2: Modification of Guns And Gun Mounts						P-1 Line Item Number / Title: 4223 / Cruiser Modernization Weapons				
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A			Other Related Program Elements: N/A				
Line Item MDAP/MAIS Code: N/A										
Exhibits Schedule					Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	1 / Cruiser Modernization Weapons [CC002]	P-5a			- / 296.660	- / 71.200	- / 34.825	- / 0.000	- / 0.000	- / 0.000
P-40	Total Gross/Weapon System Cost				- / 296.660	- / 71.200	- / 34.825	- / 0.000	- / 0.000	- / 0.000
*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.										
Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.										

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Exhibit P-5, Cost Analysis: PB 2019 Navy											Date: February 2018							
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 04 / 2						P-1 Line Item Number / Title: 4223 / Cruiser Modernization Weapons						Item Number / Title [DODIC]: 1 / Cruiser Modernization Weapons [CC002]						
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:								
Resource Summary				Prior Years		FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total				
Procurement Quantity <i>(Units in Each)</i>				-		-		-		-		-		-				
Gross/Weapon System Cost <i>(\$ in Millions)</i>				296.660		71.200		34.825		0.000		0.000		0.000				
Less PY Advance Procurement <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Net Procurement (P-1) <i>(\$ in Millions)</i>				296.660		71.200		34.825		0.000		0.000		0.000				
Plus CY Advance Procurement <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Total Obligation Authority <i>(\$ in Millions)</i>				296.660		71.200		34.825		0.000		0.000		0.000				
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)																		
Initial Spares <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Gross/Weapon System Unit Cost <i>(\$ in Dollars)</i>				-		-		-		-		-		-				
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
Flyaway Cost																		
Recurring Cost																		
1.1.1) MK 45 GUN MOUNTS ^(†) (1)	14,573K	19	276.888	35,600K	2	71.200	15,634K	2	31.267	-	-	-	-	-	-	-	-	-
1.1.2) ENGINEERING SERVICES	-	-	19.772	-	-	-	-	-	3.558	-	-	-	-	-	-	-	-	-
Subtotal: Recurring Cost	-	-	296.660	-	-	71.200	-	-	34.825	-	-	-	-	-	-	-	-	-
Subtotal: Flyaway Cost	-	-	296.660	-	-	71.200	-	-	34.825	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost	-	-	296.660	-	-	71.200	-	-	34.825	-	-	0.000	-	-	0.000	-	-	0.000
^(†) indicates the presence of a P-5a Footnotes: ⁽¹⁾ The Consolidated Appropriations Act, 2015, H.R. 83, Section 8110 re-appropriated and extended the Ship Modernization, Operations and Sustainment Fund (SMOSF) to provide for costs associated with the continued operations and modernization of eleven cruisers. Received \$38,800,000 FY 2015 SMOSF for procurement of 5 inch 62 caliber MK45 Mod 2 gun assemblies/ equipment in support of Cruiser Modernization. FY 2018 funds CG Modernization.																		

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Exhibit P-5a, Procurement History and Planning: PB 2019 Navy									Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 04 / 2				P-1 Line Item Number / Title: 4223 / Cruiser Modernization Weapons					Item Number / Title [DODIC]: 1 / Cruiser Modernization Weapons [CC002]			
Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$)	Specs Avail Now?	Date Revision Available	RFP Issue Date
1.1.1) MK 45 GUN MOUNTS		2011	BAE / Louisville, KY	SS / CPFF	NSWC INDIAN HEAD	Aug 2011	Dec 2012	3	15,934K	Y		Jul 2010
1.1.1) MK 45 GUN MOUNTS		2012	BAE / Louisville, KY	SS / CPFF	NSWC INDIAN HEAD	Jun 2012	Dec 2013	3	15,188K	Y		Jul 2011
1.1.1) MK 45 GUN MOUNTS		2015	BAE / Louisville, KY	SS / CPFF	NSWC INDIAN HEAD	Aug 2015	Dec 2016	2	17,684K	Y		Jul 2015
1.1.1) MK 45 GUN MOUNTS		2016	BAE / Louisville, KY	SS / CPFF	NSWC INDIAN HEAD	Aug 2016	Dec 2017	2	15,084K	Y		Jul 2016
1.1.1) MK 45 GUN MOUNTS		2017	BAE / Louisville, KY	C / TBD	** NO PCO **	Oct 2016	Oct 2016	2	35,600K	N		
1.1.1) MK 45 GUN MOUNTS		2018	BAE / Louisville, KY	SS / CPFF	NSWC INDIAN HEAD	Jun 2018	Dec 2019	2	15,634K	Y		May 2018

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy										Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 04: Other Weapons / BSA 2: Modification of Guns And Gun Mounts							P-1 Line Item Number / Title: 4225 / Airborne Mine Neutralization Systems					
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A				Other Related Program Elements: N/A					
Line Item MDAP/MAIS Code: N/A												
Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	120.508	13.753	16.925	22.249	0.000	22.249	14.082	14.308	14.747	12.705	Continuing	Continuing
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	120.508	13.753	16.925	22.249	0.000	22.249	14.082	14.308	14.747	12.705	Continuing	Continuing
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	120.508	13.753	16.925	22.249	0.000	22.249	14.082	14.308	14.747	12.705	Continuing	Continuing
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	0.007	3.100	0.041	-	0.041	0.318	0.357	0.573	0.574	Continuing	Continuing
Flyaway Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
<p>Description:</p> <p>The FY 2019 funding request was reduced by \$0.070 million to reflect the Department of Navy's effort to support the Office of Management and Budget directed reforms for Efficiency and Effectiveness that include a lean, accountable, more efficient government.</p> <p>Airborne Mine Countermeasures (AMCM) Equipment is currently used by MH-53E helicopters to counter the threat of sea mines. The MH-60S helicopter will be adapted for the AMCM mission in support of the development of an Organic Fleet AMCM program. The equipment is divided into three categories -- minesweeping, minehunting, and mine neutralization. (1) Minesweeping is performed by mechanical or influence sweeps. In mechanical sweeping, the mine mooring is severed by the sweep gear allowing the mine to float to the surface where it is destroyed. In influence sweeping, a magnetic or acoustic field, which simulates the magnetic/acoustic signature of a ship, is introduced into the water. This field causes the mine mechanism to actuate. (2) In mine hunting, the objective is to locate, identify, and classify mine like objects (usually by means of high resolution sonar). (3) Finally, in mine neutralization, previously identified/classified mine like objects are reacquired and neutralized using explosive devices.</p> <p>[P5 / ARCHERFISH Neutralizer]: AN/ASQ-235 - Airborne Mine Neutralization System (AMNS) AMNS will provide the MH-60S helicopter with the capability to neutralize bottom and moored mines using an expendable mine neutralization device. The AMNS was tested on the MH-53E helicopter to prove the neutralization effectiveness. The system will be deployed from the MH-60S helicopter as part of the Littoral Combat Ship (LCS) Mine Countermeasure (MCM) Mission Package. This capability will be of critical importance in littoral zones, confined straits, choke points, and the Amphibious Objective Area (AOA). AMNS procurements are funded with OPN for the AMNS combat system and WPN for the AMNS Archerfish neutralizer.</p> <p>[P5 - 2 / SEAFOX Neutralizer]: SEAFOX neutralizers are used from the AN/ASQ-232, Airborne Mine Neutralization System - SEAFOX (AMNS-SF), the AN/SLQ-60, Surface Mine Neutralization System - SEAFOX (SMNS-SF), and the SEAFOX Portable Mine Neutralization System (PMNS). Airborne combat systems are deployed from the MH-53E SEA DRAGON helicopters. Surface combat systems are deployed from the MCM-1 Avenger Class ships. The portable (PMNS) combat system is deployed from a Rigid Hull Inflatable Boat (RHIB).</p>												

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy								Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 04: Other Weapons / BSA 2: Modification of Guns And Gun Mounts						P-1 Line Item Number / Title: 4225 / Airborne Mine Neutralization Systems				
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A			Other Related Program Elements: N/A				
Line Item MDAP/MAIS Code: N/A										
Exhibits Schedule					Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	1 / ARCHERFISH Mine Neutralization Combat Rounds	P-5a, P-21			- / 83.280	- / 7.702	- / 12.927	- / 12.632	- / 0.000	- / 12.632
P-5	2 / SEAFOX Mine Neutralization Combat Rounds	P-5a			- / 37.228	- / 6.051	- / 3.998	- / 9.617	- / 0.000	- / 9.617
P-40	Total Gross/Weapon System Cost				- / 120.508	- / 13.753	- / 16.925	- / 22.249	- / 0.000	- / 22.249
<p>*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.</p> <p>Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.</p>										
<p>Justification: FY 2019 funding supports the baseline program to procure the neutralization capability for our current in service mission (SEAFOX - MH-53E helicopters and MCM Class Ships) and the neutralization capability for our organic mission (Archerfish MH-60S and LCS). This capability is currently deployed around the world to meet the current operational mine warfare mission demand for these systems. The FY2018 to F20Y19 increase supports the MCM ships with additional SEAFOX combat rounds and the extended service life of the system and to maintain the total munitions requirement inventory.</p>										

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Exhibit P-5, Cost Analysis: PB 2019 Navy											Date: February 2018							
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 04 / 2						P-1 Line Item Number / Title: 4225 / Airborne Mine Neutralization Systems						Item Number / Title [DODIC]: 1 / ARCHERFISH Mine Neutralization Combat Rounds						
ID Code (A=Service Ready, B=Not Service Ready) :									MDAP/MAIS Code:									
Resource Summary				Prior Years		FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total				
Procurement Quantity (Units in Each)				-		-		-		-		-		-				
Gross/Weapon System Cost (\$ in Millions)				83.280		7.702		12.927		12.632		0.000		12.632				
Less PY Advance Procurement (\$ in Millions)				-		-		-		-		-		-				
Net Procurement (P-1) (\$ in Millions)				83.280		7.702		12.927		12.632		0.000		12.632				
Plus CY Advance Procurement (\$ in Millions)				-		-		-		-		-		-				
Total Obligation Authority (\$ in Millions)				83.280		7.702		12.927		12.632		0.000		12.632				
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)																		
Initial Spares (\$ in Millions)				-		-		-		-		-		-				
Gross/Weapon System Unit Cost (\$ in Dollars)				-		-		-		-		-		-				
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
Hardware - ARCHERFISH Neutralizer Cost																		
Recurring Cost																		
1.1.1) AN/ASQ-235 - AMNS - MH-60S neutralizer ^(†)	137,377.92	471	64.705	141,000.00	28	3.948	141,682.53	82	11.618	142,414.63	82	11.678	-	-	0.000	142,414.63	82	11.678
Subtotal: Recurring Cost	-	-	64.705	-	-	3.948	-	-	11.618	-	-	11.678	-	-	0.000	-	-	11.678
Subtotal: Hardware - ARCHERFISH Neutralizer Cost	-	-	64.705	-	-	3.948	-	-	11.618	-	-	11.678	-	-	0.000	-	-	11.678
Support Cost																		
2.1) Production Engineering	-	-	8.984	-	-	2.141	-	-	0.619	-	-	0.289	-	-	0.000	-	-	0.289
2.2) ILS/PUBS/Tech Data	-	-	6.489	-	-	1.613	-	-	0.411	-	-	0.429	-	-	0.000	-	-	0.429
2.3) Support Equipment	-	-	3.102	-	-	0.000	-	-	0.279	-	-	0.236	-	-	0.000	-	-	0.236
Subtotal: Support Cost	-	-	18.575	-	-	3.754	-	-	1.309	-	-	0.954	-	-	0.000	-	-	0.954
Gross/Weapon System Cost	-	-	83.280	-	-	7.702	-	-	12.927	-	-	12.632	-	-	0.000	-	-	12.632
Remarks: [Hardware] AN/ASQ-235 - Airborne Mine Neutralization System (AMNS) AMNS provides the MH-60S helicopter with the capability to neutralize bottom and moored mines using an expendable mine neutralization device. The AMNS was tested on the MH-60S helicopter to prove the neutralization effectiveness. The system is deployed from the MH-60S helicopter as part of the Littoral Combat Ship (LCS) Mine Countermeasure (MCM) Mission Package. This capability will be of critical																		

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Exhibit P-5, Cost Analysis: PB 2019 Navy		Date: February 2018
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 04 / 2	P-1 Line Item Number / Title: 4225 / Airborne Mine Neutralization Systems	Item Number / Title [DODIC]: 1 / ARCHERFISH Mine Neutralization Combat Rounds
ID Code (A=Service Ready, B=Not Service Ready) :		MDAP/MAIS Code:
<p>importance in littoral zones, confined straits, choke points, and the Amphibious Objective Area (AOA). AMNS procurements are funded with OPN for the AMNS combat system and WPN for the AMNS Archerfish neutralizer.</p> <p>(†) indicates the presence of a P-5a</p>		

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Exhibit P-5a, Procurement History and Planning: PB 2019 Navy									Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 04 / 2				P-1 Line Item Number / Title: 4225 / Airborne Mine Neutralization Systems					Item Number / Title [DODIC]: 1 / ARCHERFISH Mine Neutralization Combat Rounds			
Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$)	Specs Avail Now?	Date Revision Available	RFP Issue Date
1.1.1) AN/ASQ-235 - AMNS - MH-60S neutralizer ^(†)		2017	BAE / Portsmouth, UK	SS / FFP	NAVSEA	Jun 2017	Jun 2018	28	141,000.00	Y		May 2016
1.1.1) AN/ASQ-235 - AMNS - MH-60S neutralizer ^(†)		2018	BAE / Portsmouth, UK	SS / FFP	NAVSEA	Jun 2018	Jun 2019	82	141,682.53	Y		May 2017
1.1.1) AN/ASQ-235 - AMNS - MH-60S neutralizer ^(†)		2019	BAE / Portsmouth, UK	SS / FP	NAVSEA	Jun 2019	Jun 2020	82	142,414.63	Y		May 2018

^(†) indicates the presence of a P-21

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Exhibit P-21, Production Schedule: PB 2019 Navy																			Date: February 2018																																										
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 04 / 2							P-1 Line Item Number / Title: 4225 / Airborne Mine Neutralization Systems												Item Number / Title [DODIC]: 1 / ARCHERFISH Mine Neutralization Combat Rounds																																										
Cost Elements (Units in Each)							Fiscal Year 2017												Fiscal Year 2018												B A L A N C E																														
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2016	BAL DUE AS OF 1 OCT	Calendar Year 2017												Calendar Year 2018																																										
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P																															
1.1.1) AN/ASQ-235 - AMNS - MH-60S neutralizer																																																													
Prior Years Deliveries: 471																																																													
	1	2017	NAVY	28	0	28													A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	10	8		0																							
	1	2018	NAVY	82	0	82																									A -	-	-	-														82													
	1	2019	NAVY	82	0	82																																																							82
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P																															

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Exhibit P-21, Production Schedule: PB 2019 Navy																			Date: February 2018																		
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 04 / 2										P-1 Line Item Number / Title: 4225 / Airborne Mine Neutralization Systems														Item Number / Title [DODIC]: 1 / ARCHERFISH Mine Neutralization Combat Rounds													
Cost Elements (Units in Each)							Fiscal Year 2019														Fiscal Year 2020														B A L A N C E		
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2018	BAL DUE AS OF 1 OCT	Calendar Year 2019														Calendar Year 2020																
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P							
1.1.1) AN/ASQ-235 - AMNS - MH-60S neutralizer																																					
Prior Years Deliveries: 471																																					
	1	2017	NAVY	28	28	0																												0			
	1	2018	NAVY	82	0	82	-	-	-	-	-	-	-	-	10	10	10	10	10	10	10	10	2											0			
	1	2019	NAVY	82	0	82									A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	10	10	10	42			
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P							

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Exhibit P-21, Production Schedule: PB 2019 Navy																			Date: February 2018																		
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 04 / 2										P-1 Line Item Number / Title: 4225 / Airborne Mine Neutralization Systems															Item Number / Title [DODIC]: 1 / ARCHERFISH Mine Neutralization Combat Rounds												
Cost Elements (Units in Each)							Fiscal Year 2021															Fiscal Year 2022															B A L A N C E
O C C #	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2020	BAL DUE AS OF 1 OCT	Calendar Year 2021															Calendar Year 2022															
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P							
1.1.1) AN/ASQ-235 - AMNS - MH-60S neutralizer																																					
Prior Years Deliveries: 471																																					
	1	2017	NAVY		28	28	0																									0					
	1	2018	NAVY		82	82	0																									0					
	1	2019	NAVY		82	40	42	10	10	10	10	2																			0						
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P							

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Exhibit P-21, Production Schedule: PB 2019 Navy								Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 04 / 2				P-1 Line Item Number / Title: 4225 / Airborne Mine Neutralization Systems				Item Number / Title [DODIC]: 1 / ARCHERFISH Mine Neutralization Combat Rounds			

MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Year)			Procurement Leadtime (Months)							
		MSR For 2019	1-8-5 For 2019	MAX For 2019	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	BAE - Portsmouth, UK	25	480	1,440	0	0	12	12	0	0	12	12

"A" in the Delivery Schedule indicates the Contract Award Date.

Note: Due to space limitations, quantities in the Exhibit P-21 delivery calendar are truncated and rounded based on the maximum quantity in the calendar as follows. If the maximum quantity is less than or equal to than 9,999, all quantities are shown as each. If the maximum quantity is between 10,000 and 999,999 all quantities are shown in thousands. If the maximum quantity is between 1,000,000 and 999,999,999 all quantities are shown in millions (rounded to the nearest thousand). If the maximum quantity is equal or greater than 1,000,000,000 all quantities are shown in billions (rounded to the nearest million).

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Exhibit P-5, Cost Analysis: PB 2019 Navy												Date: February 2018						
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 04 / 2						P-1 Line Item Number / Title: 4225 / Airborne Mine Neutralization Systems						Item Number / Title [DODIC]: 2 / SEAFOX Mine Neutralization Combat Rounds						
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:								
Resource Summary				Prior Years		FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total				
Procurement Quantity (Units in Each)				-		-		-		-		-		-				
Gross/Weapon System Cost (\$ in Millions)				37.228		6.051		3.998		9.617		0.000		9.617				
Less PY Advance Procurement (\$ in Millions)				-		-		-		-		-		-				
Net Procurement (P-1) (\$ in Millions)				37.228		6.051		3.998		9.617		0.000		9.617				
Plus CY Advance Procurement (\$ in Millions)				-		-		-		-		-		-				
Total Obligation Authority (\$ in Millions)				37.228		6.051		3.998		9.617		0.000		9.617				
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)																		
Initial Spares (\$ in Millions)				-		-		-		-		-		-				
Gross/Weapon System Unit Cost (\$ in Dollars)				-		-		-		-		-		-				
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
Hardware - SEAFOX Neutralizer Cost																		
Recurring Cost																		
1.1.1) SEAFOX Neutralizer ^(†)	84,038.46	338	28.405	88,721.00	61	5.412	97,657.00	35	3.418	98,310.00	84	8.258	-	-	0.000	98,310.00	84	8.258
1.1.2) SEAFOX Refurbishment Upgrade Rounds	25,000.00	72	1.800	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
1.1.3) Battery Replacement ^(†)	-	-	0.000	8,000.00	50	0.400	-	-	0.000	8,500.00	70	0.595	-	-	0.000	8,500.00	70	0.595
Subtotal: Recurring Cost	-	-	30.205	-	-	5.812	-	-	3.418	-	-	8.853	-	-	0.000	-	-	8.853
Subtotal: Hardware - SEAFOX Neutralizer Cost	-	-	30.205	-	-	5.812	-	-	3.418	-	-	8.853	-	-	0.000	-	-	8.853
Support Cost																		
2.1) Production Engineering	-	-	3.329	-	-	0.110	-	-	0.175	-	-	0.165	-	-	0.000	-	-	0.165
2.2) ILS/PUBS/Tech Data	-	-	2.206	-	-	0.129	-	-	0.205	-	-	0.314	-	-	0.000	-	-	0.314
2.3) Support Equipment	-	-	1.488	-	-	0.000	-	-	0.200	-	-	0.285	-	-	0.000	-	-	0.285
Subtotal: Support Cost	-	-	7.023	-	-	0.239	-	-	0.580	-	-	0.764	-	-	0.000	-	-	0.764
Gross/Weapon System Cost	-	-	37.228	-	-	6.051	-	-	3.998	-	-	9.617	-	-	0.000	-	-	9.617
(†) indicates the presence of a P-5a																		

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Exhibit P-5a, Procurement History and Planning: PB 2019 Navy								Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 04 / 2				P-1 Line Item Number / Title: 4225 / Airborne Mine Neutralization Systems				Item Number / Title [DODIC]: 2 / SEAFOX Mine Neutralization Combat Rounds			

Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$)	Specs Avail Now?	Date Revision Available	RFP Issue Date
1.1.1) SEAFOX Neutralizer		2017	Atlas North America / Yorktown, VA	SS / FFP	NAVSEA	Jun 2017	Dec 2018	61	88,721.00	Y		
1.1.1) SEAFOX Neutralizer		2018	Atlas North America / Yorktown, VA	SS / FFP	NAVSEA	Mar 2018	Sep 2019	35	97,657.00	Y		
1.1.1) SEAFOX Neutralizer		2019	Atlas North America / Yorktown, VA	SS / FFP	NAVSEA	Mar 2019	Sep 2020	84	98,310.00	Y		
1.1.3) Battery Replacement		2017	NSWC Indian Head / Indian Head MD	WR	NAVSEA	Jun 2017	Dec 2017	50	8,000.00	Y		
1.1.3) Battery Replacement		2019	NSWC Indian Head / Indian Head MD	WR	NAVSEA	Mar 2019	Sep 2019	70	8,500.00	Y		

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy										Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 06: Spares and Repair Parts / BSA 1: Spares And Repair Parts							P-1 Line Item Number / Title: 6120 / Spares and Repair Parts					
ID Code (A=Service Ready, B=Not Service Ready): A				Program Elements for Code B Items: N/A				Other Related Program Elements: N/A				
Line Item MDAP/MAIS Code: N/A												
Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	0.000	62.383	110.255	135.688	0.000	135.688	133.450	131.911	143.868	146.315	Continuing	Continuing
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	0.000	62.383	110.255	135.688	0.000	135.688	133.450	131.911	143.868	146.315	Continuing	Continuing
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	0.000	62.383	110.255	135.688	0.000	135.688	133.450	131.911	143.868	146.315	Continuing	Continuing
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
<p>Description:</p> <p>This budget activity provides all WPN Spares funding, formerly separately identified in the other WPN budget activities. The procurement of spares, repair parts, and assemblies for WPN equipment requiring support by the acquisition activities, prior to the Navy Supply System Material Support Date, is outlined below for Initial and Vendor Direct spares.</p> <p>Spares funding is required for the initial outfitting and repair of missiles or components that fail or are damaged while in the Fleet and for expendable items, such as guided missiles and non-recoverable target drones. For recoverable target drones, additional spares and repair parts are required to repair damage incurred while in flight, damage incurred during recovery operations, and for control and telemetry equipment.</p> <p>Funding also provides for Initial and Vendor Direct spares, during the maintenance cycle, to support Anti-Submarine Warfare weapons and support equipment. Funding also provides for Initial and Vendor Direct spares in support of Navy surface ordnance, which consists of all guns, associated equipment (hoists, shields, etc.), and related material support.</p>												

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy								Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 06: Spares and Repair Parts / BSA 1: Spares And Repair Parts					P-1 Line Item Number / Title: 6120 / Spares and Repair Parts					
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A			Other Related Program Elements: N/A				
Line Item MDAP/MAIS Code: N/A										
Exhibits Schedule					Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-18	WPN spares				- / -	- / 62.383	- / 110.255	- / 135.688	- / -	- / 135.688
P-40	Total Gross/Weapon System Cost				- / 0.000	- / 62.383	- / 110.255	- / 135.688	- / 0.000	- / 135.688

Title represents the P-18 Title for Spares.

Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.

Justification:
Replenishment Spares FY 2019 Program Justifications:

2101 / Tomahawk - Tomahawk spares procurements are critical to support and preserve the schedule of the TACTOM recertification start up in FY 2019. The increase from FY 2018 to FY 2019 is due to the increased spares requirements identified in the TACTOM Phase II recertification study.

2234 / Standard Missile - Increase funding in Standard Missile spares to support recertification and increase levels of Section Level spares available to support missile maintenance. Starting with the first recertification activity in FY 2017, the program will start losing fleet rounds upon section failures. These spares on hand are critical to avoiding a 12 month repair. Repairing of sections is done on the same factory line as new production. The funding also supports the addition of BLK IA sections.

2242 / Rolling Airframe Missile (RAM) - Increase supports the growing population of Block 2 missiles. The Navy plans to procure 120 RAM Block 2 in FY 2019, an increase of 60 missiles from FY 2018.

2307 / Evolved Sea Sparrow Missile (ESSM) - Increase funding in ESSM spares to support the Intermediate Level Maintenance Facility (ILMF) recertification of the missiles until 2030 which includes guidance sections, transition sections, control sections, Target Detection Device (TDD) units, and Power Supply Assembly (PSA) units before the missile can be returned to the Fleet. Transition to BLK II configuration recertification introducing new section level spares. FY 2019 funding supports increase in the procurement of all-up-rounds from quantity of 31 in FY 2018 to 45 in FY 2019

9203 / Spares for NAVAIR - The increase in replenishment spares requirement between FY 2018 and FY 2019 is based on life-cycle modeling that indicates an 18.8% increase in missile demand for AIM-9X. This demand is driven by the end of remaining AIM-9X Block I warranties, coupled with the increase of fielded Block II missiles based on existing Program of Record (POR) quantities. Additionally, the missile demand increase of 18.8% from FY 2018 to FY 2019 is due to increased flight hours and simultaneously experiencing higher than anticipated failure rates. Increase funding in Spares for NAVAIR will decrease backlogged repair pipeline as well as fielding more assets to keep pace with operational requirements. These funds will also enable platforms to avoid depot interruptions and potential startup costs.

3225 / MK-48 Torpedo ADCAP Mods - Increase in MK-48 Torpedo ADCAP Mods funding to support procurement of AB/TC components which were previously supplied as GFE.

3302 / ASW Range Support - Incorporates support for MK28 stationary target equipment.

6231 / 6T COG - Increase funding in 6T COG to support QUICKSTRIKE Mines MK 62, 63, 65, SLMM MK 67; VEMS/MCM Targets (Versatile Exercise Mines MK 74, 75, Mines Countermeasures Targets MK 44, 45, 46, 47, 48, 50, 51, 52, 53 & 57), Mines Sweeping Equipment, (AN/SLQ-48; Mission Packages I, II, III & Umbilical Cables. The mines are used by additional hulls such as LCS class and the service life extension of MCM class.

4205 / Close-In Weapons Sys (CIWS) Mods - Increase funds additional range and depth of onboard repair parts to deployers in response to fleet readiness concern/direction. Increase supports two Coast Guard Cutters added to the Block 1B install schedule, MK-15 MOD 33 SEARAM as four DDGs were added to the install schedule, Block 1B to Block 2 new readiness based sparing load out to increase CIWS reliability to cover deployers for the 5th, 6th, and 7th Fleet, and MK-14 MOD 40 sensor upgrade procurement and installation of new sensor technology on NIMITZ Class CVN Platforms.

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy		Date: February 2018
Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 06: Spares and Repair Parts / BSA 1: Spares And Repair Parts		P-1 Line Item Number / Title: 6120 / Spares and Repair Parts
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: N/A		
<p>4217 / Gun Mount Mods - Increase funding in Gun Mount Mods spares to support MK-46 (GWS), MK-38 (MOD2 MG), MK-45, MK-110, and MK75/76 MM and fielding more assets to keep pace with operational requirements. Vendor direct spares requirement is increasing due to support of SCN procured guns for LCS and DDG 1000.</p> <p>4225 / Airborne Mine Neutralization Systems - Increase reduces backlog of deferred component overhaul and upgrade. Increase in requirement due to continued usage of SEAFOX due to delayed decommissioning of MCM and larger number of ARCHERFISH installations including LCS ships.</p> <p>The FY 2019 funding request was reduced by \$1.420 million to reflect the Department of Navy's effort to support the Office of Management and Budget directed reforms for Efficiency and Effectiveness that include a lean, accountable, more efficient government.</p>		

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Exhibit P-18, Initial and Replenishment Spare and Repair Parts Justification: PB 2019 Navy					Date: February 2018	
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 06 / 1		P-1 Line Item Number / Title: 6120 / Spares and Repair Parts			Title: WPN spares	
End Item Line Item Number / Name [MDAP/MAIS]	Prior Years (\$ M)	FY 2017 (\$ M)	FY 2018 (\$ M)	FY 2019 Base (\$ M)	FY 2019 OCO (\$ M)	FY 2019 Total (\$ M)
Initial						
BA 02 - Other Missiles						
2206 / AMRAAM	-	1.093	3.371	2.440	-	2.440
2209 / Sidewinder	-	0.138	3.208	1.531	-	1.531
2280 / Aerial Targets	-	1.316	6.051	1.551	-	1.551
2290 / Other Missile Support	-	0.309	1.112	0.407	-	0.407
2307 / Evolved Sea Sparrow Missile (ESSM)	-	-	3.950	0.000	-	0.000
BA 03 - Torpedoes and Related Equipment						
3215 / MK-54 Torpedo Mods	-	4.714	16.606	6.535	-	6.535
3225 / MK-48 Torpedo ADCAP Mods	-	0.365	3.143	1.904	-	1.904
3301 / Torpedo Support Equipment	-	0.489	1.147	0.000	-	0.000
BA 04 - Other Weapons						
4206 / Coast Guard Weapons	-	0.228	0.810	0.388	-	0.388
4217 / Gun Mount Mods	-	1.795	3.320	1.013	-	1.013
4225 / Airborne Mine Neutralization Systems	-	0.007	3.100	0.041	-	0.041
Subtotal: Initial	-	10.454	45.818	15.810	-	15.810
Replenishment						
BA 02 - Other Missiles						
2101 / Tomahawk	-	39.815	13.518	25.096	-	25.096
2234 / Standard Missile	-	4.944	15.062	20.651	-	20.651
2242 / Rolling Airframe Missile (RAM)	-	0.235	2.201	2.547	-	2.547
2307 / Evolved Sea Sparrow Missile (ESSM)	-	1.717	7.790	13.866	-	13.866
9203 / Spares for NAVAIR	-	2.794	8.558	14.314	-	14.314
BA 03 - Torpedoes and Related Equipment						
3141 / ASW Targets	-	0.760	4.273	2.552	-	2.552
3215 / MK-54 Torpedo Mods	-	0.196	2.224	0.929	-	0.929
3225 / MK-48 Torpedo ADCAP Mods	-	0.100	0.148	1.413	-	1.413
3302 / ASW Range Support	-	0.354	0.658	0.952	-	0.952
6231 / 6T COG	-	-	1.759	7.433	-	7.433
BA 04 - Other Weapons						
4205 / Close-In Wpns Sys (CIWS) Mods	-	0.014	0.164	11.725	-	11.725
4206 / Coast Guard Weapons	-	0.059	0.238	0.337	-	0.337

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Exhibit P-18, Initial and Replenishment Spare and Repair Parts Justification: PB 2019 Navy					Date: February 2018	
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 06 / 1		P-1 Line Item Number / Title: 6120 / Spares and Repair Parts			Title: WPN spares	
End Item Line Item Number / Name [MDAP/MAIS]	Prior Years (\$ M)	FY 2017 (\$ M)	FY 2018 (\$ M)	FY 2019 Base (\$ M)	FY 2019 OCO (\$ M)	FY 2019 Total (\$ M)
4217 / Gun Mount Mods	-	0.939	6.444	8.763	-	8.763
4225 / Airborne Mine Neutralization Systems	-	0.002	1.400	9.300	-	9.300
Subtotal: Replenishment	-	51.929	64.437	119.878	-	119.878
Total Cost (Initial + Replenishment)	-	62.383	110.255	135.688	-	135.688

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